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1969

Water Resources Data for Ohio

Part 2. Water Quality Records

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of Ohio
and with other agencies

CALENDAR FOR WATER YEAR 1969

OCTOBER 1968

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER 1968

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
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24	25	26	27	28	29	30

DECEMBER 1968

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
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29	30	31				

JANUARY 1969

S	M	T	W	T	F	S
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5	6	7	8	9	10	11
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26	27	28	29	30	31	

FEBRUARY 1969

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
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23	24	25	26	27	28	

MARCH 1969

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
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23	24	25	26	27	28	29
30	31					

APRIL 1969

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
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27	28	29	30			

MAY 1969

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
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25	26	27	28	29	30	31

JUNE 1969

S	M	T	W	T	F	S
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29	30					

JULY 1969

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST 1969

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER 1969

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

1969

Water Resources Data for Ohio

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of Ohio
and with other agencies

Prepared in cooperation with

Ohio Department of Natural Resources,
Division of Water
Ohio Department of Health
Miami Conservancy District
Ohio River Valley Water Sanitation Commission

Water resources records, 1969 for Ohio are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Ohio
   Part 1. Surface Water Records

2. Water Resources Data for Ohio
   Part 2. Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus, Ohio 43212

1971

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WATER RESOURCES DATA FOR OHIO, 1969

Part 2. Water Quality Records

INTRODUCTION

Water resources data for the 1969 water year for Ohio include records of data for the chemical and physical characteristics of surface and ground water. Records for a few pertinent water-quality stations and selected data on chemical quality of ground water in bordering States are also included. The records were collected by the Water Resources Division of the U.S. Geological Survey under the direction of J. J. Molloy, district chief. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

The Geological Survey has published records of chemical quality, suspended sediment, and water temperatures since 1941 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Beginning with the 1964 water year, water-quality records also have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. These records will be published later in Geological Survey water-supply papers.

COOPERATION

This report was prepared by the U.S. Geological Survey under cooperative agreement with the following organizations:

Ohio Department of Natural Resources, F. E. Morr, director, and C. V. Youngquist, chief, Division of Water.
Ohio Department of Health, E. W. Arnold, Director, and G. H. Eagle, chief engineer.
Miami Conservancy District, M. L. Mitchell, chief engineer.
Ohio River Valley Water Sanitation Commission, R. K. Horton, executive director and chief engineer.

DEFINITION OF TERMS

Definition of terms related to water-quality and hydrologic data, as used in this report, are defined as follows:

Acre-foot (ac-ft,AC-FT) is a quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

Biochemical oxygen demand (BOD) is the amount of oxygen required by bacteria while stablizing decomposable organic matter under aerobic conditions.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.983471 acre-feet, or 646,317 gallons.

Chemical oxygen demand (COD) indicates the quantity of oxidizable compounds present in a water and will vary with water compositions, concentration of reagent, temperature, period of contact, and other factors.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method.

Cubic foot per second (cfs,CFS) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Discharge is the volume of water (or more broadly, total fluids) that passes a given point within a given period of time.

Mean discharge is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the tables is "Discharge (cfs)."

Drainage area of a stream at a specified location is that area, measured in horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or body of impounded surface water together with all tributary surface stream and bodies of impounded surface water.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per liter (µg/,UG/L) is a more precise unit for expressing the concentration of chemical constituents in solution. One thousand micrograms per liter is equivalent to one milligram per liter. See below.

Milligrams per liter (mg/l,MG/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1, page 4. Concentration of suspended sediment expressed in milligrams per liter is based on the weight of sediment in a liter of water-sediment mixture. Sediment concentrations that are expressed in parts per million may be converted to milligrams per liter by using the factors in table 2, page 4.

Odor is reported in terms of the threshold number which is the dilution ratio at which odor is just detectable.

Partial-record station is a particular site where limited streamflow or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*...	0.11119	Hydroxide (OH^{-1})..	0.05880
Ammonia as NH_4^{+1}...	.05544	Iodide (I^{-1}).....	.00788
Arsenic (AS^{+3}).....	.04004	Iron (Fe^{+3})*.....	.05372
Barium (Ba^{+2}).....	.01456	Lead (Pb^{+2})*.....	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*...	.14411
Bromide (Br^{-1}).....	.01251	Magnesium (Mg^{+2})..	.08226
Cadmium (Cd^{+2}).....	.01779	Manganese (Mn^{+2})*.	.03640
Calcium (Ca^{+2}).....	.04990	Nickel (Ni^{+2})*....	.03406
Carbonate (CO_3^{-2})..	.03333	Nitrate (NO_3^{-1})...	.01613
Chloride (Cl^{-1})....	.02821	Nitrite (NO_2^{-1})...	.02174
Chromium (Cr^{+6})*...	.11539	Phosphate (PO_4^{-3}).	.03159
Cobalt (Co^{+2})*.....	.03394	Potassium (K^{+1})...	.02557
Copper (Cu^{+2})*.....	.03148	Sodium (Na^{+1}).....	.04350
Cyanide (CN^{-1})*....	.03844	Strontium (Sr^{+2})*.	.02283
Fluoride (F^{-1}).....	.05264	Sulfate (SO_4^{-2})...	.02082
Hydrogen (H^{+1}).....	.99209	Zinc (Zn^{+2})*.....	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in parts per million to milligrams per liter*
(All values calculated to three significant figures)

Range of concentration (ppm)	Multiply by	Range of concentration (ppm)	Multiply by
0 - 15,900	1.00	322,000 - 341,000	1.26
16,000 - 46,800	1.02	342,000 - 361,000	1.28
46,900 - 76,500	1.04	362,000 - 380,000	1.30
76,600 - 105,000	1.06	381,000 - 399,000	1.32
106,000 - 133,000	1.08	400,000 - 416,000	1.34
134,000 - 159,000	1.10	417,000 - 434,000	1.36
160,000 - 185,000	1.12	435,000 - 451,000	1.38
186,000 - 210,000	1.14	452,000 - 467,000	1.40
211,000 - 233,000	1.16	468,000 - 483,000	1.42
234,000 - 256,000	1.18	484,000 - 498,000	1.44
257,000 - 279,000	1.20	499,000 - 514,000	1.46
280,000 - 300,000	1.22	515,000 - 528,000	1.48
301,000 - 321,000	1.24	529,000 - 542,000	1.50

*Based on water density of 1.000 g/ml and sediment density of 2.65 g/cc.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by sieve and sedimentation methods.

Particle-size classification, used in this report agrees closely with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology (Lane and others, 1947, p. 937). The classification is as follows:

Clay:	Smaller than 0.004 mm.
Silt:	Between 0.004 and 0.062 mm.
Sand:	Between 0.062 and 2.0 mm.
Gravel:	Between 2.0 and 64.0 mm.

The particle-size distributions given in this report are not necessarily representative of the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis of the silt and clay.

Sediment is solid material that originates mostly from disintergrated rocks and is transformed by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Sediment discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or by volume, that is discharged in a given time.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. Commonly, the amount of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well, and it may even vary in the same source with changes in the composition of the water.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph or a digital mechanism that automatically records water temperature on paper tape.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the water year.

Tons per day is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Turbidity of a sample is the reduction of transparency due to the presence of suspended particulate matter.

SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

International Hydrological Decade (IHD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD stations provide indices of runoff and the general distribution of water in the principal river basins of the conterminous United States and Alaska.

Pesticide program is a network of regularly sampled water-quality stations where additional monthly samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed in downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each water-quality station, gaging station, and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive.

The complete 8-digit number for each station, such as 03-3355.00, includes the part number "03" and a 6-digit station number. The identification number for each station (other than miscellaneous sites) in this report is printed to the left of the station name and contains only the essential digits. For example, the number is printed as 3-3355 for a station whose complete indentification number is 03-3355.00. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

WELL NUMBERS

The well numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The number consists of 14 digits and one letter. The first 6 digits denote the degrees, minutes, and seconds of latitude followed by a letter denoting north or south. Seven digits following the letter denote degrees, minutes, and seconds of longitude. The last digit is a sequential number for wells within a 1-second grid. The system provides the geographic location of the well and a unique number for each well.

COLLECTION AND EXAMINATION OF DATA

Water samples for analysis usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads. Discharge records for streams in Ohio have been released in the report, "Water Resources Data for Ohio, 1969, Part 1. Surface Water Records."

The data in this report include a description of the sampling station and tabulations of the samples analyzed. The description of the sampling station gives the location, drainage area, periods of record for the various water-quality data, extremes of the pertinent data, and general remarks in a format similar to that used for streamflow gaging stations. For ground-water sampling stations no descriptive statements are given. However, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of ground water.

Data on the quality of surface water were collected from designated sampling sites at predetermined intervals such as once-daily, weekly, monthly, or less frequently; at some sites the data were recorded continuously either on a strip chart or on a punched paper tape at 60-minute intervals. Data on the quality of ground water were collected at wells throughout the State.

Water-quality information is presented for chemical quality, microbiological, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, specific conductance, and pH. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnishes information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment and bed material.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l), and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml (grams per milliliter), parts per million and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. (See table 2 on page 4.) To convert temperature in degrees Celsius to degrees Fahrenheit, see table 3 on page 10.

In October 1968 the Geological Survey began reporting many of the chemical constituents, as well as the minor elements and some pollutants, in micrograms per liter instead of milligrams per liter. (See "Definitions of Terms," p. 3.)

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest °C)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0	32	10	50	20	68	30	86	40	104
1	33	11	51	21	69	31	87	41	105
1	34	11	52	21	70	31	88	41	106
2	35	12	53	22	71	32	89	42	107
2	36	12	54	22	72	32	90	42	108
3	37	13	55	23	73	33	91	43	109
3	38	13	56	23	74	33	92	43	110
4	39	14	57	24	75	34	93	44	111
4	40	14	58	24	76	34	94	44	112
5	41	15	59	25	77	35	95	45	113
6	42	16	60	26	78	36	96	46	114
6	43	16	61	26	79	36	97	46	115
7	44	17	62	27	80	37	98	47	116
7	45	17	63	27	81	37	99	47	117
8	46	18	64	28	82	38	100	48	118
8	47	18	65	28	83	38	101	48	119
9	48	19	66	29	84	39	102	49	120
9	49	19	67	29	85	39	103	49	121

*°F = 9/5 (°C) + 32, or °C = 5/9 (°F - 32).

Solutes

The methods of collecting and analyzing water samples for determining the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge depending on the source of material and the turbulence and the mixing of the stream. Some must be sampled at several verticals across the channel to determine accurately the solute load.

For stations at which samples were collected once each day, analyses were made of the samples having the maximum, minimum, and median dissolved-solids content each month, as indicated by measurements of the specific conductance of each daily sample. Samples collected at weekly or monthly intervals and at partial-record stations were analyzed individually.

At chemical-quality stations where continuous recording instruments are installed, the records consist of daily maximum and minimum values for each constituent measured.

Ground water does not change significantly during short periods of time; infrequent sampling and analysis of ground water adequately defines ground-water quality at a given site. Water samples from wells are analyzed individually.

Temperature

Water temperatures are measured at most of the water-quality stations. For daily stations, the water temperatures are taken at about the same time each day when the sample is collected. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day and the monthly averages.

Sediment

At some stations, suspended-sediment samples are collected daily with depth-integrating cable-suspended samplers from fixed sampling points at one or more verticals in cross section. A hand sampler is used at many stations during periods of low flow. Depth-intergrated samples were collected periodically at many verticals in the cross section to determine the ratio of the cross-sectional distribution of the concentration of suspended sediment to the daily sampling verticals.

During periods of high or rapidly changing flow, samples were taken twice or more often throughout the day at most stations. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent

conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

WATER-SUPPLY PAPERS

The table below shows the annual series of Water-Supply Papers that contain information on quality of surface waters in Ohio.

Water year	WSP No.	Water year	WSP No.
1941	942	1953	1290
1942	950	1954	1350
1943	970	1955	1400
1944	1022	1956	1450
1945	1039	1957	1520
1946	1050	1958	1571
1947	1102	1959	1642
1948	1132	1960	1742
1949	1162	1961	1882
1950	1186	1962	1942
1951	1197	1963	1948
1952	1250	1964	1955
----	----	1965	1962

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_____1957, The development and calibration of visual accumulation tube: Rept. 11.

_____1957, Some fundamentals of particle-size analysis: Rept. 12.

_____1959, Federal inter-agency sedimentation instruments and reports: Rept. AA.

_____1961, The single stage-sampler for suspended sediment: Rept. 13.

_____1963, Determinations of fluvial sediment discharge: Rept. 14.

_____1963, A summary of the work of the inter-agency sedimentation project: Rept. S.

OHIO RIVER MAIN STEM

3-0125.5. ALLEGHENY RIVER AT KINZUA DAM, PA.
(Formerly published as 03-0124.00 Allegheny River near Kinzua, Pa.)

LOCATION.--Lat 41°15'16", long 79°00'18", Warren County, just downstream from Allegheny Reservoir near Kinzua.
DRAINAGE AREA.--2,180 sq mi.
PERIOD OF RECORD.--Chemical analyses: January 1966 to September 1967, October 1968 to September 1969.
Water temperatures: January 1966 to September 1967, October 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 277 micromhos Mar. 25; minimum daily, 105 micromhos May 18.
Water temperatures: Maximum, 22°C Aug. 27, Sept. 3; minimum, 1°C Jan. 28, Feb. 5-18, 20, 21, Mar. 10-12.
EXTREMES, 1966-67, 1968-69.--Specific conductance: Maximum daily, 724 micromhos Sept. 29, 1966; minimum daily, 94 micromhos Feb. 17, 1966.
Water temperatures: Maximum, 24°C July 15, 1966; minimum, freezing point on several days during January 1966, January and February 1967.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Beginning July 1969 an additional sample was collected each month as part of the Federal Water Quality Administration national network. Records of discharge are given for 03-0126.00 Allegheny River at Warren, Pa. (drainage area 2,223 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.					
04...	0745	2360	22	94	156
18...	0745	1870	18	--	141
28...	0745	1740	24	--	178
NOV.					
02...	1430	1660	36	139	241
08...	0745	796	42	--	268
29...	0730	7080	30	--	211
DEC.					
01...	0745	8790	32	--	221
09...	0730	12600	26	120	194
31...	0745	5280	24	--	165
JAN.					
01...	1000	5250	22	--	167
11...	0730	5150	22	90	162
29...	0730	8040	21	--	154
FEB.					
01...	1000	1100	24	--	168
15...	0700	10500	18	91	137
24...	0730	3250	14	--	125
MAR.					
01...	0800	664	17	--	140
14...	0745	748	35	--	252
25...	0730	838	40	--	277
APR.					
03...	0730	812	42	--	271
16...	0730	11700	16	66	127
20...	0745	1070	12	--	107
MAY					
04...	0730	2700	14	82	116
18...	0735	4810	13	--	105
31...	0735	3590	15	--	130
JUNE					
04...	0730	3570	14	--	121
15...	0745	829	16	78	133
29...	0750	3790	17	--	147
JULY					
04...	0755	1610	17	--	144
12...	0755	1670	18	86	154
25...	0930	1930	22	--	155
29...	0745	2450	19	--	168
AUG.					
01...	0730	3750	20	--	164
11...	0745	1100	21	100	179
20...	1000	1050	25	--	180
26...	0730	2620	24	--	190
SEPT.					
03...	0730	2450	24	--	188
09...	0730	2620	25	112	196
18...	0730	2610	26	--	204
25...	1745	1800	30	--	200

3-0125.5. ALLEGHENY RIVER AT KINZUA DAM, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	170	--	221	167	168	140	257	113	126	145	164	191
2.....	172	241	213	165	159	162	259	116	128	144	166	192
3.....	160	254	210	165	157	177	271	116	124	156	169	188
4.....	156	--	208	166	151	188	263	116	121	144	167	189
5.....	153	--	208	165	151	200	236	116	128	154	170	--
6.....	156	261	208	166	152	206	236	115	128	148	172	192
7.....	156	268	210	165	149	216	227	--	132	150	174	200
8.....	153	268	194	--	149	224	164	116	130	153	183	202
9.....	157	268	194	165	151	234	149	115	130	152	181	196
10.....	152	267	199	161	154	237	204	115	134	150	178	--
11.....	149	253	205	162	156	238	166	112	130	152	179	196
12.....	148	244	201	162	149	242	139	116	128	154	174	191
13.....	150	236	202	165	140	246	134	113	132	150	174	193
14.....	147	239	201	163	141	252	132	112	138	153	--	196
15.....	147	236	201	161	137	162	123	111	133	152	174	192
16.....	144	239	189	161	136	252	127	114	134	153	177	190
17.....	143	237	--	158	140	261	124	108	134	--	176	199
18.....	141	239	186	158	132	261	127	105	131	156	184	204
19.....	143	247	179	158	131	265	109	113	132	156	184	204
20.....	160	249	176	161	127	267	107	114	134	154	188	203
21.....	162	248	181	162	133	267	107	115	138	--	186	194
22.....	164	244	176	161	132	267	116	119	135	158	182	199
23.....	165	--	169	163	126	269	113	123	134	157	175	200
24.....	--	237	175	161	125	271	112	123	134	152	182	195
25.....	155	237	168	163	137	277	109	124	138	156	186	200
26.....	161	235	--	164	134	275	117	123	135	158	190	202
27.....	160	223	169	158	134	--	117	125	135	159	186	196
28.....	178	228	172	155	133	257	118	121	139	157	183	203
29.....	--	211	171	154	--	267	112	119	147	168	188	200
30.....	--	219	171	156	--	257	111	114	140	167	188	198
31.....	--	--	165	155	--	263	--	130	--	162	186	--
AVERAGE	155	243	190	161	142	236	156	116	132	154	178	196

MAXIMUM VALUE = 277 MINIMUM VALUE = 105

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	12	12	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	13	12	11	11	11	--	11	11	11	11	--	--	--	11
NOVEMBER.	--	11	11	--	--	11	10	10	10	10	10	9	9	9	10	9	9	9	9	7	7	7	--	7	8	7	6	7	7	7	--	9
DECEMBER.	6	7	7	7	6	6	6	5	4	4	3	4	4	4	4	3	--	3	3	2	2	2	2	2	2	--	2	3	3	2	2	4
JANUARY..	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2
FEBRUARY.	2	--	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	2	2	2	2	2	2	2	--	--	--	--	1
MARCH....	2	2	2	2	--	2	2	2	2	1	1	1	2	2	2	2	2	2	2	2	3	3	2	2	2	2	--	2	2	3	2	2
APRIL....	2	3	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4	6	6	7	7	6	6	6	7	6	7	6	7	7	--	5
MAY.....	8	7	7	8	7	8	--	7	7	7	8	7	8	8	8	7	7	8	8	8	13	14	14	14	14	13	11	11	11	11	16	10
JUNE.....	16	16	14	13	14	14	16	16	16	17	18	16	16	17	19	18	18	16	15	16	17	18	17	16	17	17	17	17	18	17	--	16
JULY.....	18	19	18	19	15	18	19	19	20	18	18	20	19	19	21	20	--	20	21	21	--	21	21	19	19	21	20	20	20	19	20	19
AUGUST...	20	20	19	21	21	21	21	19	20	20	21	21	21	--	21	21	20	20	21	21	21	21	21	21	21	21	22	21	21	21	21	21
SEPTEMBER	21	21	22	21	--	21	21	21	21	--	20	20	19	19	19	20	19	19	19	19	18	18	18	18	18	18	17	17	17	17	--	19

MAXIMUM VALUE = 22 MINIMUM VALUE = 1

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.

LOCATION.--Lat 40°31'51", long 79°50'12", Allegheny County, on left bank at Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Oakmont filtration plant, 0.5 mile upstream from Hulton Road Bridge, at mile 13.5, and 10.4 miles downstream from gaging station at Natrona.
DRAINAGE AREA.--11,520 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: July 1963 to September 1967, October 1968 to September 1969.
Water temperatures: July 1963 to September 1967, October 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 399 micromhos Sept. 30; minimum daily 160 micromhos Apr. 7.
Water temperatures: Maximum, 28°C July 22-24; minimum, freezing point Dec. 17.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.								
07...	0815	4540	80	260	--	--	109	26
09...	0830	4820	--	--	24	0	100	26
30...	0830	6590	--	--	--	--	77	18
NOV.								
01...	0815	10400	400	200	38	0	71	17
14...	0815	8000	450	500	--	--	105	20
30...	0815	34900	590	220	--	--	48	18
DEC.								
04...	0815	32600	770	340	19	0	57	16
08...	0815	42800	740	460	--	--	53	16
17...	0800	17100	1900	630	--	--	78	16
JAN.								
02...	1045	46200	1200	200	--	--	50	10
19...	0815	34100	2100	210	--	--	87	18
24...	0800	32800	--	--	8	0	65	12
FEB.								
03...	0815	55800	190	210	6	0	46	12
19...	0815	19100	420	430	16	0	--	20
28...	0815	7650	--	--	--	0	93	--
MAR.								
11...	0815	5790	880	3200	16	0	99	20
21...	0830	8350	2000	900	--	--	124	23
27...	0815	27500	740	290	--	--	59	15
APR.								
01...	0815	19300	1100	170	--	--	72	15
07...	0815	61800	40	180	--	--	46	10
12...	0815	40100	680	210	10	--	55	13
MAY								
08...	0800	15500	80	440	--	--	--	12
16...	0830	27800	320	440	14	0	62	8.0
21...	0830	42400	120	230	--	--	46	10
JUNE								
02...	0815	8560	40	380	--	--	74	14
15...	0815	5040	100	520	14	0	91	16
20...	0815	5910	90	840	--	--	138	15
JULY								
04...	0800	7170	60	210	60	0	76	14
12...	0800	8350	150	450	--	--	74	10
24...	1230	10100	--	--	--	--	--	--
28...	0800	7370	70	860	--	--	110	18
AUG.								
03...	0815	8280	190	460	--	--	84	16
16...	0815	5620	80	810	--	--	123	20
19...	0930	7580	--	--	--	--	--	--
25...	0815	6150	70	240	16	0	94	19
SEPT.								
01...	0815	3440	20	230	--	--	112	16
15...	0815	3340	40	210	14	0	118	22
25...	0930	3440	--	--	--	--	--	--
30...	0830	3540	100	190	--	--	123	24

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.--Continued

EXTREMES, 1963-67, 1968-69.--Specific conductance: Maximum daily, 733 micromhos Nov. 6, 1963; minimum daily, 121 micromhos Mar. 11, 1964.
Water temperatures: Maximum, 32°C Aug. 22, 1966; minimum, freezing point on several days during 1963-66, and 1968.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. Beginning July 1969 an additional sample was collected each month as part of the Federal Water Quality Administration national network. Records of discharge are given for 03-0495.00 Allegheny River at Natrona, Pa. (drainage area 11,410 sq mi approximately).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.								
07...	.3	2.1	.04	--	129	--	376	7.1
09...	.3	1.0	.11	194	120	101	351	6.9
30...	.2	2.3	.06	--	106	--	276	7.1
NOV.								
01...	.3	1.0	.08	170	98	67	274	7.0
14...	.2	2.5	.03	--	124	--	346	6.9
30...	.0	2.0	.03	--	74	--	210	7.1
DEC.								
04...	.1	2.3	.05	127	71	56	220	7.3
08...	.1	2.7	.04	--	68	--	203	7.2
17...	.1	2.7	.04	--	92	--	262	7.2
JAN.								
02...	.0	1.4	.00	--	56	--	168	7.1
19...	.0	1.6	.00	--	102	--	290	7.2
24...	.0	1.4	.00	138	73	66	219	7.1
FEB.								
03...	.2	1.4	.05	--	62	57	166	6.5
19...	.2	1.6	--	164	86	73	234	7.1
28...	.3	1.7	.08	--	100	96	285	6.5
MAR.								
11...	.3	3.3	--	182	108	95	321	6.4
21...	.3	3.6	--	--	130	--	376	6.6
27...	.3	3.3	.00	--	76	--	228	6.6
APR.								
01...	.1	2.5	.00	--	77	--	234	6.5
07...	.1	2.8	.00	--	--	--	160	6.1
12...	.1	2.2	.00	110	62	54	186	6.4
MAY								
08...	--	1.6	.00	--	84	--	230	6.5
16...	.0	1.8	.09	114	74	62	205	7.0
21...	.0	1.9	.00	--	69	--	183	7.0
JUNE								
02...	.2	1.6	.03	--	86	--	217	6.7
15...	.3	1.1	.06	208	106	94	300	6.7
20...	.3	3.1	.01	--	132	--	383	6.0
JULY								
04...	.3	3.2	.00	200	94	45	283	8.0
12...	.2	2.7	.00	--	82	--	248	7.3
24...	--	--	--	--	--	--	320	7.1
28...	.2	2.5	.00	--	120	--	342	7.0
AUG.								
03...	.1	6.2	.03	--	101	--	290	6.4
16...	.2	7.0	.07	--	129	--	371	4.6
19...	--	--	--	--	--	--	339	6.7
25...	.2	6.2	.03	186	107	97	314	6.4
SEPT.								
01...	.3	3.9	.07	--	116	--	322	7.0
15...	.2	3.2	.03	226	126	114	372	7.1
25...	--	--	--	--	--	--	385	7.0
30...	.3	4.7	.07	--	130	--	399	6.6

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT.								
01-31	0	10	20	0	50	0	10	0
NOV.								
01-30	0	10	10	0	60	0	0	0
DEC.								
01-18	0	0	0	0	30	0	0	0
JAN.								
01-31	0	0	10	0	60	0	0	0
FEB.								
01-28	0	0	10	0	70	0	0	0
MAR.								
01-31	0	10	0	0	110	0	0	0
APR.								
01-30	0	10	0	0	20	0	0	0
MAY								
01-31	0	10	10	0	30	0	0	0
JUNE								
01-30	0	10	10	0	10	0	0	0
JULY								
01-31	0	10	10	0	60	0	0	0
AUG.								
01-31	0	40	20	10	110	0	0	0
SEPT.								
01-30	10	20	10	0	90	0	0	0

3-0496.55. ALLEGHENY RIVER AT OAKMONT, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	362	274	225	--	172	288	234	198	--	--	292	322
2.....	362	259	217	168	170	295	220	205	217	--	292	332
3.....	362	--	210	184	166	298	228	209	233	--	290	335
4.....	362	--	220	196	175	324	206	217	242	283	305	332
5.....	362	270	231	200	184	321	210	217	231	288	292	356
6.....	372	268	--	201	189	316	183	223	252	270	300	354
7.....	376	276	214	209	194	310	160	228	250	261	290	370
8.....	351	306	203	226	199	313	175	230	256	285	303	396
9.....	351	306	214	217	210	318	166	227	279	280	308	396
10.....	351	289	211	248	203	324	171	224	288	250	290	384
11.....	336	301	216	257	214	321	179	227	288	256	292	360
12.....	345	327	220	260	209	333	186	--	305	248	328	342
13.....	355	342	228	268	--	356	181	--	293	265	346	350
14.....	362	346	231	268	226	352	181	227	305	256	356	357
15.....	365	342	232	268	241	349	173	219	300	267	354	372
16.....	372	324	243	268	248	352	172	205	288	263	371	379
17.....	369	--	262	272	238	356	179	252	316	267	356	380
18.....	355	--	253	272	241	356	189	188	346	272	351	388
19.....	369	--	--	290	234	371	204	199	373	283	342	373
20.....	369	--	--	251	235	372	202	195	383	285	358	370
21.....	342	--	--	241	244	376	213	183	372	295	358	383
22.....	289	--	--	235	238	371	202	193	324	314	335	--
23.....	311	--	--	218	246	359	199	193	316	338	367	--
24.....	319	--	--	219	260	342	184	184	308	328	338	--
25.....	336	224	--	217	264	300	183	187	318	319	314	--
26.....	342	224	--	213	272	267	188	209	--	314	300	379
27.....	336	228	--	217	272	228	200	195	333	338	311	380
28.....	324	224	--	200	285	269	194	195	336	342	292	380
29.....	278	213	--	190	--	249	184	198	321	325	325	392
30.....	276	210	--	197	--	247	188	214	--	319	314	399
31.....	--	--	--	192	--	256	--	199	--	297	342	--
AVERAGE	345	--	--	228	223	319	191	208	299	289	322	367

MAXIMUM VALUE = 399 MINIMUM VALUE = 160

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	21	21	21	19	18	18	18	18	18	18	16	16	13	13	13	13	18	18	17	17	21	19	17	17	17	16	14	15	14	14	--	17
NOVEMBER.	14	12	--	--	12	12	12	11	11	11	11	10	10	9	8	8	--	--	--	--	--	--	--	--	8	6	6	6	7	6	--	--
DECEMBER.	6	6	7	6	6	--	4	3	3	2	2	2	2	2	1	1	0	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JANUARY..	--	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	2	2	1
FEBRUARY.	2	3	3	3	3	3	2	2	2	2	2	2	--	1	1	1	1	1	2	2	2	2	2	3	3	3	3	3	--	--	--	2
MARCH....	4	4	4	4	4	4	4	--	4	4	4	3	3	3	3	3	3	4	4	5	5	5	5	6	8	6	7	6	6	5	4	4
APRIL....	5	6	5	5	8	8	8	9	9	8	11	13	13	11	10	10	10	10	10	12	12	13	13	13	10	10	11	12	12	12	--	10
MAY.....	13	13	13	14	14	15	17	18	18	17	16	--	--	13	13	14	14	14	17	18	18	18	17	17	17	17	18	17	18	20	19	16
JUNE.....	--	21	21	20	19	19	20	20	19	19	20	21	22	22	22	22	22	22	22	23	22	23	23	23	24	--	24	26	26	--	--	22
JULY.....	--	--	--	26	24	24	24	23	22	21	21	22	22	23	24	24	26	27	27	27	27	28	28	28	27	27	26	27	24	25	26	25
AUGUST...	26	26	24	25	24	24	26	27	27	26	26	26	27	27	26	26	27	26	27	27	26	24	24	24	--	24	24	24	27	26	24	26
SEPTEMBER	24	25	26	25	25	26	27	27	26	26	26	24	24	24	23	23	23	22	21	22	21	--	--	--	--	21	21	21	21	21	--	24

MAXIMUM VALUE = 28 MINIMUM VALUE = 0

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.

LOCATION.--Lat 39°43'57", long 79°54'42", Fayette County, about 750 ft upstream from dam, lock and dam 8 (mile 90.8), at Point Marion, and 1.5 miles upstream from Cheat River.
DRAINAGE AREA.--2,720 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1955 to June 1963, January 1966 to September 1967, October 1968 to September 1969.
Water temperatures: October 1955 to June 1963, January 1966 to September 1967, October 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 1,020 micromhos July 5; minimum daily, 172 micromhos Feb. 6.
Water temperatures: Maximum, 27°C July 1-6; minimum, freezing point Jan. 10, 11, 14.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
04...	0815	1800	1900	--	--	363	10	.4
14...	0800	680	1300	--	--	245	8.0	.3
22...	0800	1600	760	0	0	279	5.0	.4
NOV.								
12...	0800	2000	780	0	0	264	3.0	.4
17...	0800	1600	2000	--	--	422	16	.5
25...	0800	--	--	--	--	78	4.0	.1
DEC.								
06...	0800	3800	620	0	0	126	6.0	.1
13...	0800	12000	580	--	--	142	7.0	.1
26...	0800	2200	680	--	--	114	7.0	.1
JAN.								
13...	0800	2000	400	2	0	92	7.0	.1
23...	0800	2400	810	--	--	161	10	.1
26...	0800	2100	400	--	--	66	5.5	.1
FEB.								
06...	0800	2100	330	2	0	62	6.0	.0
16...	0800	3500	490	0	0	86	4.0	.2
28...	0800	5800	840	0	0	159	6.0	.2
MAR.								
04...	0800	6600	930	0	0	203	8.0	.2
24...	0800	7000	1200	--	--	260	11	.3
27...	1730	--	--	--	--	188	9.3	--
31...	0800	910	280	--	--	61	8.0	.0
APR.								
02...	0800	1200	270	--	--	62	4.0	.0
12...	0800	--	--	0	0	103	4.0	.0
27...	0800	1000	700	--	--	173	6.0	.1
MAY								
13...	0800	540	130	--	--	72	3.0	.1
22...	0800	2400	550	0	0	109	3.2	.1
31...	0800	30	750	--	--	167	5.0	.1
JUNE								
01...	0800	40	740	--	--	169	5.0	.2
18...	0800	890	1100	0	0	262	10	.3
30...	0800	40	1700	--	--	367	9.0	.4
JULY								
05...	0800	780	1800	--	--	438	12	.4
17...	0800	670	460	--	--	62	3.0	.1
29...	0800	1300	890	28	0	163	6.0	.2
31...	0715	--	--	--	--	168	--	--
AUG.								
12...	0800	650	1900	--	--	268	8.0	.2
14...	0800	710	580	10	0	108	4.4	.2
17...	0800	350	370	--	--	58	3.2	.3
18...	1230	--	--	--	--	76	--	--
SEPT.								
02...	0800	300	500	--	--	107	5.0	.3
18...	0800	470	1300	--	--	346	8.0	.4
24...	1245	--	--	--	--	129	--	.1
29...	0800	230	530	0	0	141	6.0	.2

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.--Continued

EXTREMES, 1955-63, 1966-67, 1968-69.--Specific conductance: Maximum daily, 1,360 micromhos July 28, 1967; minimum daily, 106 micromhos Nov. 27, 1962.
Water temperatures: Maximum, 28°C on several days during 1959, 1960, and 1966; minimum, freezing point on many days during winter period.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Samples for iron and manganese were filtered clear when collected. Acidity values determined to pH 7.0. Beginning July 1969 an additional sample was collected each month as part of the Federal Water Quality Administration national network. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.								
04...	.6	.05	--	258	--	--	857	3.6
14...	1.2	.04	--	176	--	--	616	3.6
22...	.8	.04	420	196	196	1.1	734	3.4
NOV.								
12...	3.3	.01	432	208	208	.6	627	3.8
17...	1.2	.09	--	318	--	--	928	4.2
25...	.6	.03	--	66	--	--	225	4.0
DEC.								
06...	2.4	.08	218	100	100	.2	322	4.3
13...	.2	.07	--	100	--	--	418	3.7
26...	1.4	.07	--	84	--	--	215	5.9
JAN.								
13...	1.4	.01	148	78	76	--	247	4.9
23...	1.7	.00	--	142	--	--	399	6.1
26...	1.3	.00	--	60	--	--	190	4.6
FEB.								
06...	1.2	.00	--	61	60	--	172	4.9
16...	.7	.00	140	78	78	.2	253	4.2
28...	.5	.72	--	120	120	.4	430	3.9
MAR.								
04...	1.4	.00	328	152	152	.5	534	3.8
24...	2.0	.06	--	184	--	--	664	3.6
27...	4.7	--	291	141	141	.4	472	4.0
31...	1.7	.05	--	58	--	--	177	6.0
APR.								
02...	1.6	.00	--	56	--	--	173	6.2
12...	2.9	.00	164	94	94	.2	272	4.5
27...	2.7	.00	--	152	--	--	426	6.2
MAY								
13...	2.2	--	--	80	--	--	198	6.8
22...	.6	--	150	98	98	.6	277	4.4
31...	.3	--	--	140	--	--	441	4.0
JUNE								
01...	1.5	.00	--	145	--	--	443	3.8
18...	.4	.02	438	210	210	.7	668	3.8
30...	.3	.01	--	284	--	--	862	3.8
JULY								
05...	2.8	.00	--	314	--	--	1020	4.8
17...	3.7	.00	--	52	--	--	174	5.7
29...	6.9	.00	268	132	109	--	412	5.3
31...	--	--	--	100	--	--	420	5.0
AUG.								
12...	7.5	.00	--	226	--	--	638	4.4
14...	7.1	.17	198	118	110	--	297	7.4
17...	5.3	.00	--	62	--	--	173	5.1
18...	--	--	--	--	--	--	190	4.5
SEPT.								
02...	2.4	.00	--	80	--	--	282	3.8
18...	5.5	.00	--	268	--	--	782	3.8
24...	1.1	--	220	--	--	--	315	4.3
29...	5.5	.00	212	104	104	.4	377	3.8

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	760	848	327	277	283	464	190	215	443	920	454	314
2.....	792	850	316	308	251	441	173	221	481	945	429	282
3.....	814	830	363	269	250	493	207	227	485	943	428	282
4.....	857	809	454	231	248	534	218	263	514	972	419	291
5.....	844	770	306	231	182	525	204	257	538	1020	401	309
6.....	825	720	322	223	172	536	248	295	598	974	365	348
7.....	836	715	404	223	173	592	278	290	629	925	439	323
8.....	813	695	415	224	185	570	210	339	607	806	513	345
9.....	763	738	385	242	196	659	237	363	632	583	563	--
10.....	701	746	363	256	210	554	294	383	658	534	624	320
11.....	667	667	372	242	246	554	270	426	678	495	386	359
12.....	682	627	352	244	345	634	272	242	714	556	638	412
13.....	632	577	418	247	246	579	255	198	739	669	374	412
14.....	616	535	405	279	241	584	257	228	723	619	297	385
15.....	633	548	388	295	244	485	260	203	682	270	236	456
16.....	651	919	294	267	253	528	287	202	688	181	178	512
17.....	682	928	276	277	251	485	342	211	648	174	173	754
18.....	670	--	333	310	278	541	362	220	668	185	195	782
19.....	660	459	352	339	304	593	373	233	594	203	188	670
20.....	750	460	416	308	312	595	342	234	627	319	203	611
21.....	779	446	308	236	342	614	351	252	632	254	197	506
22.....	734	424	280	330	367	636	380	277	645	233	241	408
23.....	682	--	291	399	381	635	392	333	689	200	338	402
24.....	698	--	--	269	355	664	374	352	709	227	217	335
25.....	696	225	266	210	--	615	369	359	719	235	208	317
26.....	709	232	215	190	389	503	348	401	741	248	209	362
27.....	720	269	287	192	351	441	426	384	763	259	206	413
28.....	742	249	294	206	430	532	243	382	796	288	216	378
29.....	804	271	285	234	--	223	199	425	816	412	256	377
30.....	844	331	243	199	--	195	192	412	862	393	292	401
31.....	848	--	219	324	--	177	--	441	--	419	316	--
AVERAGE	739	588	331	260	277	521	285	298	657	498	329	416

MAXIMUM VALUE = 1020 MINIMUM VALUE = 172

3-0630. MONONGAHELA RIVER AT LOCK AND DAM 8, AT POINT MARION, PA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	21	21	20	19	19	18	18	17	18	18	18	18	18	18	18	18	19	19	19	18	17	18	17	17	17	16	16	16	13	14	16	18
NOVEMBER.	13	14	14	14	14	14	14	14	12	12	11	8	10	9	9	10	11	--	8	9	--	7	--	--	9	8	7	8	9	9	--	11
DECEMBER.	8	--	8	8	7	6	6	6	--	3	3	2	3	3	3	3	3	3	--	3	3	3	4	--	2	3	3	4	2	2	3	4
JANUARY..	3	3	3	1	1	1	1	1	1	0	0	1	1	0	1	1	1	2	1	2	2	4	3	3	3	2	1	2	3	2	5	2
FEBRUARY.	4	7	6	4	3	4	5	5	6	4	4	4	3	3	3	3	3	3	3	3	4	4	3	3	--	2	3	2	--	--	--	4
MARCH....	3	5	6	5	4	6	6	6	6	6	4	4	4	4	4	4	6	6	6	6	7	7	7	8	7	8	8	7	7	7	7	6
APRIL....	6	7	7	7	9	9	9	9	9	11	11	11	12	12	13	13	13	15	15	13	13	14	14	13	14	13	13	13	12	12	--	11
MAY.....	12	14	14	14	16	16	17	17	17	16	16	13	12	13	13	14	16	17	17	18	18	18	18	19	19	19	19	19	19	19	--	21	16
JUNE.....	21	23	24	21	22	22	22	22	22	22	22	23	23	23	24	--	24	24	24	24	23	23	24	24	24	24	26	26	26	26	--	23
JULY.....	27	27	27	27	27	27	26	26	26	26	24	25	25	24	21	22	22	23	26	24	24	23	25	23	24	24	25	26	26	25	25	25
AUGUST...	26	26	24	25	24	24	24	25	23	24	24	23	22	22	--	23	24	23	23	23	23	23	24	22	23	23	23	23	22	23	24	24
SEPTEMBER	24	22	24	24	24	24	24	25	--	24	23	23	22	23	23	23	23	23	23	22	19	21	21	21	21	21	21	20	20	19	--	22

MAXIMUM VALUE = 27 MINIMUM VALUE = 0

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.

LOCATION.--Lat 40°24'36", long 79°57'15", Allegheny County, at South Pittsburgh Water Company raw water intake line, just upstream from Becks Run, at South Pittsburgh.
DRAINAGE AREA.--7,360 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: January 1966 to September 1967, October 1968 to September 1969.
Water temperatures: January 1966 to September 1967, October 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 815 micromhos Oct. 24; minimum daily, 194 micromhos Apr. 10.
Water temperatures: Maximum, 32°C June 30, July 1, 2; minimum, 4°C Dec. 26, 27, Jan. 3-5.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.								
18...	0800	1930	250	660	2	0	301	20
24...	0800	2140	130	1500	--	--	347	20
31...	0800	2240	180	1100	--	--	256	18
NOV.								
02...	0800	1740	50	960	--	--	273	20
21...	0800	16100	190	410	0	0	154	28
30...	0800	5200	500	500	--	--	100	8.0
DEC.								
06...	0800	17000	350	430	--	--	78	7.0
10...	0800	9000	1300	480	0	0	99	11
19...	0800	8340	1200	700	--	--	150	12
JAN.								
03...	0800	10100	580	70	--	--	76	10
15...	0800	10300	1000	430	--	--	116	12
28...	0800	6850	1100	500	3	0	102	12
FEB.								
03...	0800	26300	490	210	8	0	100	8.0
06...	0800	19000	490	70	--	--	72	7.0
22...	0800	4220	730	240	--	--	142	12
MAR.								
10...	0800	2370	610	520	0	0	142	17
20...	0800	5950	--	--	--	--	199	16
29...	0800	19000	1400	510	--	--	92	9.0
APR.								
10...	0800	19000	470	80	--	--	63	4.0
16...	0800	9480	550	90	10	--	78	8.0
21...	0800	8580	610	120	--	--	105	11
MAY								
15...	0800	14500	230	330	12	0	118	6.0
16...	0800	10900	100	280	--	--	92	6.0
31...	0800	1740	180	240	--	--	145	14
JUNE								
01...	0800	1620	--	--	--	--	142	14
22...	0800	2140	360	80	12	0	158	15
26...	0800	2450	170	80	--	--	198	19
JULY								
04...	0800	1560	330	410	--	--	198	24
17...	0800	4180	100	930	36	0	163	9.0
29...	0800	25600	100	370	--	--	130	9.0
AUG.								
14...	0800	10900	90	1200	--	--	188	9.9
20...	0800	38400	1000	550	--	--	73	6.5
30...	0800	3080	220	280	14	0	103	11
SEPT.								
01...	0800	1970	80	150	--	--	108	10
14...	0800	2510	130	140	--	--	171	12
28...	0800	2370	60	530	2	0	136	11

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT.								
01-31	0	30	90	10	230	20	0	0
NOV.								
01-30	0	0	130	10	140	0	0	0
JAN.								
01-31	0	10	20	0	80	10	0	0
FEB.								
01-28	0	0	10	0	70	0	0	0
MAR.								
01-31	0	30	40	10	170	0	0	0
APR.								
01-30	0	0	0	0	30	0	0	0
MAY								
01-31	0	10	10	0	20	0	0	0
JUNE								
01-30	0	10	10	0	960	0	0	0
JULY								
01-31	0	20	40	10	60	0	0	0
AUG.								
01-31	0	0	50	0	40	0	0	0
SEPT.								
01-30	0	10	0	0	40	0	0	20

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.--Continued

EXTREMES, 1966-67, 1968-69.--Specific conductance: Maximum daily, 968 micromhos Sept. 30, 1966; minimum daily, 178 micromhos May 7, 1966.
Water temperatures: Maximum, 33°C June 28 to July 2, 1966; minimum, 4°C on several days during 1966, 1967, 1968, and 1969.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. Records of discharge are given for 03-0850.00 Monongahela River at Braddock, Pa. (drainage area 7,337 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.								
18...	.5	1.9	.08	468	217	216	717	5.2
24...	.6	4.5	.10	--	258	--	815	4.3
31...	.4	6.0	.12	--	190	--	638	4.9
NOV.								
02...	.4	.9	.08	--	276	--	700	4.2
21...	.3	1.8	.01	260	116	116	394	4.5
30...	.2	3.9	.02	--	94	--	275	5.0
DEC.								
06...	.2	2.7	.08	--	66	--	214	5.2
10...	.2	2.8	.07	182	78	78	275	4.4
19...	.2	2.3	.13	--	128	--	389	6.4
JAN.								
03...	.1	4.2	.00	--	77	--	226	6.6
15...	.1	4.7	.00	--	102	--	318	6.2
28...	.1	3.8	.00	186	94	92	283	5.9
FEB.								
03...	.1	3.6	.00	194	93	86	277	6.4
06...	.1	3.4	.00	--	70	--	210	6.3
22...	.2	5.9	.00	--	128	--	380	6.0
MAR.								
10...	.3	13	.09	256	114	114	406	4.3
20...	.4	20	.00	--	150	--	530	3.7
29...	.2	3.3	.11	--	76	--	259	4.7
APR.								
10...	.2	3.2	.01	--	63	--	194	7.1
16...	.5	3.9	.10	141	74	66	231	7.0
21...	.5	3.8	1.0	--	101	--	308	7.1
MAY								
15...	.1	3.4	.02	238	115	105	315	6.5
16...	.1	5.1	.17	--	93	--	257	6.5
31...	.2	6.5	.15	--	136	--	396	7.0
JUNE								
01...	.4	6.4	.05	--	131	--	415	--
22...	.3	7.8	.08	282	142	132	466	6.9
26...	.4	7.8	.05	--	173	--	566	6.5
JULY								
04...	.5	11	.05	--	172	--	581	7.4
17...	.3	7.3	.00	278	142	112	430	6.1
29...	.3	6.1	.00	--	120	--	351	7.7
AUG.								
14...	.4	8.3	.09	--	160	--	476	4.3
20...	.2	7.1	.07	--	86	--	240	6.6
30...	.3	8.3	.05	224	106	94	314	7.0
SEPT.								
01...	.4	5.0	.05	--	105	--	315	6.9
14...	.2	6.3	.05	--	146	--	456	6.8
28...	.3	7.9	.06	256	116	114	378	5.6

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	--	604	277	229	250	356	--	283	415	554	373	315
2.....	--	700	249	230	254	--	--	285	416	555	378	354
3.....	679	687	273	226	277	--	221	342	451	581	378	370
4.....	692	682	277	230	231	392	209	342	438	581	378	378
5.....	740	--	248	232	220	392	209	338	437	581	379	373
6.....	740	--	214	226	210	373	209	335	437	580	378	378
7.....	728	--	220	--	250	400	214	318	455	--	--	334
8.....	688	--	222	--	250	402	203	312	456	--	--	365
9.....	666	--	254	--	250	404	217	309	478	--	--	366
10.....	642	--	275	--	237	406	194	307	503	--	--	379
11.....	714	--	302	--	224	428	216	309	503	--	--	455
12.....	696	--	298	--	226	461	206	285	500	--	--	456
13.....	706	--	321	299	246	459	206	335	450	--	--	453
14.....	734	--	282	312	257	457	204	320	449	549	476	456
15.....	741	--	286	318	281	458	199	315	449	467	375	430
16.....	764	--	275	294	281	--	231	257	450	423	377	409
17.....	728	--	271	290	283	--	239	257	450	430	377	433
18.....	717	--	379	287	310	451	267	264	450	453	378	431
19.....	716	--	389	290	308	472	308	264	453	450	338	--
20.....	717	426	342	309	316	530	293	262	468	486	240	--
21.....	747	394	348	290	379	442	308	309	467	513	274	--
22.....	773	409	348	307	380	443	281	309	466	353	276	--
23.....	752	372	264	272	380	444	300	307	507	353	274	--
24.....	815	308	253	274	360	376	286	342	542	352	276	389
25.....	758	305	251	270	374	451	290	342	565	353	264	394
26.....	806	342	248	270	350	305	254	342	566	351	278	377
27.....	764	313	300	312	350	327	256	375	564	352	283	377
28.....	702	295	258	283	353	261	256	377	566	351	311	378
29.....	692	--	258	290	--	259	265	379	566	351	314	378
30.....	692	275	258	258	--	--	271	370	547	378	314	377
31.....	638	--	277	253	--	--	--	396	--	378	314	--
AVERAGE	722	--	281	274	288	405	243	318	482	448	333	392

MAXIMUM VALUE = 815 MINIMUM VALUE = 194

GPO 822-622 - 3

3-0851.2. MONONGAHELA RIVER AT SOUTH PITTSBURGH, PA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT AT 0800)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	--	--	26	26	24	24	22	23	23	22	22	22	22	24	24	25	26	25	24	24	23	26	24	24	--	--	--	21	20	20	18	23
NOVEMBER.	18	19	19	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	12	11	10	10	11	11	12	13	--	12	--	--
DECEMBER.	12	12	12	--	12	10	10	10	7	8	8	8	9	9	7	7	9	7	8	8	8	8	7	7	7	4	4	7	7	7	7	8
JANUARY..	5	5	4	4	4	6	--	--	--	--	--	--	6	6	6	6	6	6	6	7	7	7	7	7	7	7	5	5	5	7	7	6
FEBRUARY.	7	7	7	7	7	7	7	7	7	8	8	8	8	8	7	7	7	7	8	8	9	9	9	11	11	11	11	11	--	--	--	8
MARCH....	11	--	--	10	10	10	11	11	11	11	11	11	11	11	11	--	--	13	13	11	14	14	14	15	13	12	11	12	12	--	--	12
APRIL....	--	--	11	11	11	11	10	12	13	14	14	14	14	16	16	16	16	16	17	16	16	16	17	16	15	15	16	17	17	16	--	15
MAY.....	16	17	18	18	18	18	22	21	23	22	22	18	18	18	18	19	19	19	20	21	22	22	22	23	23	24	24	26	26	28	28	21
JUNE.....	28	28	28	28	28	27	27	28	28	28	28	28	29	29	29	29	29	29	28	29	28	29	28	29	28	29	30	29	29	32	--	29
JULY.....	32	32	30	31	31	30	--	--	--	--	--	--	--	27	27	28	29	30	30	30	30	30	30	29	29	29	29	29	29	28	28	--
AUGUST...	28	28	28	28	28	28	--	--	--	--	--	--	--	28	28	28	29	29	29	28	27	24	26	27	27	26	27	27	28	28	27	--
SEPTEMBER	27	29	27	30	30	29	30	30	29	27	28	27	27	27	26	27	27	28	--	--	--	--	--	25	27	26	27	27	27	26	--	28

MAXIMUM VALUE = 32 MINIMUM VALUE = 4

3-0860.6. OHIO RIVER AT SOUTH HEIGHTS, PA.

LOCATION.--Lat 40°34'12", long 80°13'47", Beaver County, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Duquesne Powerplant at South Heights, 1.6 miles upstream from Ambridge-Woodlawn Bridge, and at river mile 15.2.
DRAINAGE AREA.--19,520 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: July 1963 to December 1965, October 1967 to September 1969.
Water temperatures: July 1963 to December 1965, October 1967 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 536 micromhos Oct. 4; minimum daily, 195 micromhos Apr. 14.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	MEAN DISCHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
04...	6430	170	370	--	--	182	28	.4
15...	5640	160	280	--	--	166	30	.4
17...	5480	190	140	17	0	176	28	.5
DEC.								
20...	27600	1600	380	--	--	100	18	.2
26...	25200	1600	560	8	0	92	14	.1
31...	82800	1900	600	--	--	67	14	.2
JAN.								
02...	57400	1300	570	--	--	62	13	.0
19...	38200	--	--	--	--	100	22	.2
22...	53200	1400	580	11	0	81	16	.1
FEB.								
06...	66900	930	390	--	--	69	8.0	.4
17...	24700	1500	520	30	0	78	16	.2
28...	13800	1100	660	--	--	114	18	.5
MAR.								
01...	12500	--	--	--	--	112	19	.2
10...	9250	820	580	8	0	132	21	.2
22...	24200	--	--	--	--	171	23	.2
APR.								
02...	30100	380	580	--	--	112	12	.1
05...	55400	--	--	12	0	67	10	.4
14...	46600	480	370	--	--	51	10	.1
MAY								
11...	57200	--	--	--	--	99	10	.0
22...	36600	210	300	--	--	58	10	.1
31...	15300	--	--	--	0	77	10	.1
JUNE								
01...	12000	--	--	--	--	76	11	.2
15...	9360	--	--	19	0	119	19	.4
25...	11000	30	420	--	--	156	20	.4
JULY								
05...	16000	--	--	28	0	120	22	.3
14...	22400	190	320	--	--	190	16	.5
31...	17400	110	200	--	--	114	12	.2
AUG.								
16...	12400	--	--	--	--	163	12	.3
21...	33700	830	490	--	--	90	18	.4
27...	9580	360	410	16	0	108	18	.3
SEPT.								
03...	7400	100	210	--	--	115	26	.5
16...	6610	60	230	--	--	156	32	.2
17...	7500	160	210	12	0	143	28	.2

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01-17	0	10	10	0	40	0	0	0
DEC.								
10-31	0	10	40	20	70	0	0	0
JAN.								
01-31	10	0	10	0	40	0	0	0
FEB.								
01-28	0	0	10	0	40	0	0	0
MAR.								
01-25	0	0	0	0	13	0	0	0
APR.								
01-30	0	10	10	0	10	0	0	0
MAY								
01-31	0	10	10	0	30	0	0	0
JUNE								
01-30	0	10	10	0	30	0	0	0
JULY								
01-31	0	20	20	10	60	0	0	0
AUG.								
01-31	0	10	20	0	40	0	0	0
SEPT.								
01-30	0	20	20	0	60	0	0	0

3-0860.6. OHIO RIVER AT SOUTH HEIGHTS, PA.--Continued

EXTREMES, 1963-65, 1967-69.--Specific conductance: Maximum daily, 828 micromhos Oct. 12, 1963; minimum daily, 142 micromhos Mar. 8, 1964.
Water temperatures (1963-65, 1967-68): Maximum, 29°C July 25, 26, 1964, Aug. 9, 21-26, 1968; minimum, freezing point on several days during 1965 and 1968.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Records of discharge are given for 03-0860.00 Ohio River at Sewickley, Pa. (drainage area 19,500 sq mi approximately).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
04...	9.0	.74	--	160	--	536	6.4
15...	9.1	.58	--	150	--	502	7.0
17...	4.9	.74	314	150	136	524	7.2
DEC.							
20...	4.4	.08	--	112	--	327	7.4
26...	3.4	.01	160	92	86	276	6.9
31...	3.1	.06	--	80	--	226	7.0
JAN.							
02...	3.5	.02	--	67	--	211	6.9
19...	4.0	.00	--	114	--	342	6.6
22...	4.0	.09	168	86	77	279	7.9
FEB.							
06...	2.2	.04	--	75	--	214	6.9
17...	1.6	.20	180	88	64	265	7.2
28...	3.7	.04	--	112	--	343	7.0
MAR.							
01...	7.5	.02	--	110	--	352	6.1
10...	8.0	.00	280	124	118	394	6.3
22...	14	.00	--	141	--	491	5.2
APR.							
02...	5.7	.11	--	98	--	331	6.3
05...	2.9	.07	140	72	62	227	6.8
14...	2.8	.11	--	62	--	195	6.4
MAY							
11...	3.6	.02	--	101	--	304	6.7
22...	2.4	.00	--	76	--	214	6.7
31...	3.0	.08	140	88	70	257	6.6
JUNE							
01...	2.7	.12	--	90	--	260	6.9
15...	5.7	.57	246	124	109	385	6.6
25...	7.1	.36	--	158	--	451	6.5
JULY							
05...	5.1	.31	252	130	107	405	7.5
14...	6.2	.11	--	158	--	511	6.3
31...	3.9	.10	--	108	--	337	6.4
AUG.							
16...	5.9	.00	--	155	--	448	4.5
21...	7.0	.00	--	107	--	304	7.1
27...	6.5	.29	206	118	105	360	6.1
SEPT.							
03...	11	.38	--	128	--	344	6.5
16...	11	.52	--	146	--	461	7.1
17...	9.4	.43	268	140	130	421	6.3

3-0860.6. OHIO RIVER AT SOUTH HEIGHTS, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	528	--	--	247	226	352	293	240	260	411	337	368
2.....	526	--	--	211	267	356	331	250	260	412	377	354
3.....	521	--	--	216	228	356	301	251	260	414	337	344
4.....	536	--	--	233	231	359	227	264	270	403	340	375
5.....	528	--	--	223	221	371	227	266	289	405	347	398
6.....	519	--	--	228	214	384	220	276	311	392	340	397
7.....	527	--	--	227	221	383	202	281	322	420	353	396
8.....	522	--	--	244	252	445	197	292	316	367	368	402
9.....	505	--	--	257	330	391	211	294	316	396	372	407
10.....	519	--	237	284	252	394	204	297	319	435	379	401
11.....	530	--	248	288	243	384	198	304	331	429	370	391
12.....	527	--	242	300	245	389	214	297	340	375	382	414
13.....	517	--	264	298	243	403	216	292	367	428	424	414
14.....	518	--	282	295	252	407	195	292	374	511	435	420
15.....	502	--	282	298	261	416	202	299	385	497	444	448
16.....	516	--	272	308	267	422	202	270	388	457	448	461
17.....	524	--	272	318	265	431	210	240	401	413	414	421
18.....	--	--	276	305	273	436	212	232	425	384	380	433
19.....	--	--	301	342	281	438	267	246	430	374	374	434
20.....	--	--	327	310	286	444	264	240	435	396	385	438
21.....	--	--	311	290	286	450	--	223	414	399	304	448
22.....	--	--	294	279	295	491	269	214	418	410	310	457
23.....	--	--	280	313	295	430	252	222	425	397	337	442
24.....	--	--	278	261	295	389	254	235	438	417	327	454
25.....	--	--	262	293	318	386	269	228	451	501	324	446
26.....	--	--	276	257	327	--	293	226	431	453	337	442
27.....	--	--	276	275	333	--	278	235	426	386	360	448
28.....	--	--	--	267	343	--	256	255	408	361	360	454
29.....	--	--	322	249	--	--	247	258	419	374	348	446
30.....	--	--	234	286	--	--	241	264	408	354	347	438
31.....	--	--	226	273	--	--	--	257	--	337	352	--
AVERAGE	--	--	--	273	269	404	239	259	367	409	364	419

MAXIMUM VALUE = 536 MINIMUM VALUE = 195

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT AT 0800)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	22	23	22	22	19	19	19	19	18	18	18	19	19	19	18	18	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NOVEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DECEMBER.	--	--	--	--	--	--	--	--	--	2	1	--	3	--	--	6	6	--	--	--	--	--	3	3	2	1	1	--	2	2	2	--
JANUARY..	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	2	1	1	2	3	3	3	3	2	3	1	2	2	--	3	2
FEBRUARY.	3	3	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	4	5	5	5	5	--	--	--	3
MARCH....	5	5	6	6	6	6	6	6	7	6	5	4	5	5	4	5	6	6	7	8	9	6	7	8	8	--	--	--	--	--	--	6
APRIL....	10	16	--	--	--	--	13	12	15	16	16	--	13	16	16	17	17	17	--	--	15	14	14	14	14	--	--	18	17	15	--	--
MAY.....	17	17	--	--	18	18	20	21	20	--	--	18	18	18	17	17	--	--	20	20	20	20	18	--	--	21	21	21	22	24	24	--
JUNE.....	24	24	24	22	23	23	23	23	23	23	24	24	24	26	24	24	24	25	24	26	27	26	26	26	27	27	28	28	28	28	--	25
JULY.....	28	26	26	28	28	28	26	26	25	25	25	26	26	26	26	27	27	28	27	27	27	28	28	27	28	28	24	28	27	26	27	27
AUGUST...	26	27	27	27	26	26	26	26	27	26	26	26	26	26	27	--	--	27	27	27	23	24	26	25	26	26	26	26	26	27	27	26
SEPTEMBER	28	27	27	27	27	27	28	27	26	26	24	25	25	24	24	24	24	24	23	23	23	24	24	24	24	24	22	22	22	22	--	25

3-0920.9. WEST BRANCH MAHONING RIVER NEAR RAVENNA, OHIO

LOCATION.--Lat 41°09'41", long 81°11'50", in T.3 N., R.8 W., Portage County, temperature recorder at gaging station on left bank at downstream side of bridge on County Highway 177, 2.5 miles east of Ravenna.
DRAINAGE AREA.--21.8 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1965 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 26°C June 27, 28; minimum, freezing point on many days during December to March.
EXTREMES, 1965-69.--Water temperatures: Maximum, 28°C Aug. 24, 1968; minimum, freezing point on many days during winter period.
REMARKS.--Chemical data for this station are published on page 346.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER																																
MAXIMUM	17	17	17	15	12	11	11	12	13	13	12	13	14	14	16	16	18	17	16	14	13	12	12	11	10	9	9	9	8	8	7	13
MINIMUM	13	14	15	12	10	9	10	9	9	12	10	10	11	11	12	13	15	16	14	11	11	9	10	9	9	8	8	8	7	7	5	11
NOVEMBER																																
MAXIMUM	10	11	10	10	10	10	9	9	8	6	6	6	5	4	7	7	7	8	7	4	3	4	4	6	6	4	6	8	8	6	--	7
MINIMUM	6	9	9	8	8	9	9	8	6	5	6	4	4	3	3	6	7	7	4	3	2	2	2	4	4	3	4	6	6	4	--	5
DECEMBER																																
MAXIMUM	4	4	6	6	4	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	2	2	1	1	1	1	3	2	1	2	2
MINIMUM	3	4	4	4	2	1	0	0	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
JANUARY																																
MAXIMUM	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	2	3	3	4	2	1	1	1	1	4	4	1
MINIMUM	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1	2	2	1	1	1	1	0	1	2	1
FEBRUARY																																
MAXIMUM	2	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	--	--	--	1
MINIMUM	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	0	--	--	--	1
MARCH																																
MAXIMUM	2	2	3	3	2	3	3	3	4	3	1	1	2	1	1	3	6	7	8	8	7	7	8	7	6	4	6	6	6	3	4	4
MINIMUM	0	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	1	2	4	5	4	3	3	6	4	3	2	2	3	2	1	2
APRIL																																
MAXIMUM	3	5	7	9	11	10	11	12	14	14	12	12	13	13	13	16	18	18	11	11	11	10	9	11	13	16	18	16	13	14	--	12
MINIMUM	2	3	3	5	9	7	7	8	10	12	9	7	8	10	11	12	13	11	7	5	8	8	7	7	8	9	11	13	9	8	--	8
MAY																																
MAXIMUM	16	17	19	20	20	20	19	18	17	12	11	11	13	17	18	20	19	17	17	18	18	16	15	16	16	16	17	20	22	21	21	17
MINIMUM	9	10	13	15	14	14	17	17	12	11	9	9	9	12	11	13	16	16	16	16	14	13	12	12	13	11	11	14	17	18	16	13
JUNE																																
MAXIMUM	22	20	16	17	17	18	18	17	19	20	19	23	22	21	18	18	19	17	18	18	19	18	18	18	21	24	26	26	24	23	--	20
MINIMUM	17	16	14	13	14	14	16	15	13	14	16	18	19	18	15	14	14	16	16	16	14	14	17	17	17	18	21	22	20	20	--	16
JULY																																
MAXIMUM	22	22	21	20	19	19	18	20	21	23	23	24	23	22	23	23	23	24	24	23	22	22	23	23	23	22	22	22	21	23	23	22
MINIMUM	19	17	18	18	18	18	18	17	18	19	19	20	19	18	19	20	21	21	21	21	20	19	20	21	20	20	20	21	20	19	19	19
AUGUST																																
MAXIMUM	23	22	22	22	21	21	22	23	21	21	21	21	21	22	22	22	22	22	22	22	20	20	20	22	22	22	21	21	21	21	22	22
MINIMUM	19	20	18	18	17	18	18	20	18	18	17	17	17	18	19	20	19	19	20	19	16	16	16	17	18	18	17	17	17	18	19	18
SEPTEMBER																																
MAXIMUM	21	21	22	21	22	22	21	21	19	17	16	17	18	18	19	18	18	17	15	13	16	17	16	16	16	16	14	13	13	15	--	18
MINIMUM	19	19	19	19	20	21	20	19	17	14	13	13	14	15	16	17	16	13	13	13	13	13	14	16	14	13	13	12	11	12	--	15

MAXIMUM VALUE = 26 MINIMUM VALUE = 0

3-0938. MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OHIO
(Formerly published as 03-0940.00 Mahoning River at Leavittsburg, Ohio)

LOCATION.--Lat 41°14'22", long 80°52'56", Trumbull County, on left bank 10 ft upstream from Ohio Edison Company diversion dam, 30 ft upstream from Duck Creek, and 300 ft upstream from gaging station at bridge on Leavitt Road in Leavittsburg.
DRAINAGE AREA.--542 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1951 to September 1953, July 1967 to September 1968 (at Leavittsburg), October 1968 to September 1969.
Water temperatures: October 1948 to September 1968 (at Leavittsburg), October 1968 to September 1969
EXTREMES, 1948-67.--Water temperatures: Maximum, 30°C July 2, 1949; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since July 1967. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Beginning July 1969 an additional sample was collected each month as part of the Federal Water Quality Administration national network.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS, (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
09...	1000	242	108	0	72	28	.2	2.3	254	170	82	416
NOV.												
07...	1800	229	104	0	122	28	.3	1.8	290	230	145	511
19...	1635	632	68	0	79	22	.3	4.4	204	155	100	366
DEC.												
06...	1000	995	72	0	73	20	.1	1.3	212	137	78	348
JAN.												
16...	1830	230	100	0	117	26	.2	5.2	288	200	118	501
29...	1630	1000	88	0	100	26	.2	4.2	252	175	103	445
FEB.												
04...	0930	1740	72	0	96	20	.2	3.7	258	160	101	404
23...	1300	261	130	0	140	32	.2	9.2	430	260	153	618
MAR.												
26...	--	600	66	0	84	30	.2	3.4	266	144	90	398
MAY												
04...	1800	294	92	0	132	22	.2	3.9	270	142	66	441
20...	1800	2560	44	0	46	10	.1	3.0	140	82	46	214
JULY												
01...	1800	281	88	0	106	30	.3	6.0	290	185	113	467
31...	1700	370	92	0	95	24	.3	4.4	258	177	102	429
31...	1715	370	--	--	--	25	--	--	--	169	--	425
AUG.												
14...	1130	327	--	--	--	24	--	--	--	191	--	473
16...	2000	300	96	0	106	25	.4	4.4	280	192	114	474
18...	1800	314	94	0	81	26	.4	3.5	230	166	89	413
SEPT.												
04...	1045	260	96	0	90	26	.3	1.8	248	174	96	426
09...	1830	263	96	0	84	27	.4	3.7	242	164	86	424

3-0938. MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	410	400	470	460	300	240	340	310	390	320	460	440
2	430	410	470	450	310	240	350	340	390	330	460	440
3	420	400	460	450	350	310	370	340	360	330	470	450
4	420	400	460	450	350	340	370	350	420	360	490	470
5	420	400	460	440	360	340	---	---	440	400	510	470
6	420	400	460	440	350	330	---	---	460	440	530	490
7	420	400	510	460	340	320	---	---	470	450	510	500
8	420	400	500	480	320	270	---	---	480	470	540	500
9	420	400	490	480	330	270	---	---	470	460	560	530
10	420	410	500	490	370	330	---	---	460	450	550	540
11	420	410	500	490	390	370	---	---	450	450	570	530
12	480	420	500	480	400	380	---	---	450	420	580	570
13	460	440	500	480	400	380	---	---	460	430	580	550
14	440	440	500	480	410	390	---	---	480	450	580	540
15	470	440	500	480	420	400	---	---	560	440	570	560
16	490	470	500	440	440	420	---	---	460	440	590	570
17	490	480	440	360	440	430	---	---	470	460	580	560
18	480	460	380	340	430	360	---	---	480	430	570	520
19	470	440	370	350	360	340	---	---	500	460	560	520
20	480	440	390	360	380	350	---	---	560	500	530	510
21	480	460	400	390	380	370	---	---	570	560	540	520
22	480	460	410	400	390	370	---	---	610	570	520	510
23	480	470	420	410	410	380	---	---	620	610	520	500
24	480	470	420	410	410	400	---	---	610	540	510	500
25	470	460	410	380	420	400	---	---	540	440	510	440
26	470	460	390	360	430	420	---	---	440	430	440	400
27	460	440	380	370	430	410	---	---	450	430	400	390
28	440	430	420	380	420	410	---	---	450	440	410	400
29	460	440	440	400	410	400	460	280	---	---	410	400
30	460	450	400	300	410	370	470	430	---	---	420	400
31	470	450	---	---	380	320	440	320	---	---	450	400

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	460	450	490	420	420	390	520	340	---	---	470	400
2	450	380	---	---	---	---	740	470	---	---	470	430
3	400	280	---	---	---	---	---	---	---	---	440	380
4	310	290	450	380	---	---	---	---	---	---	460	380
5	320	250	510	310	430	340	---	---	---	---	410	370
6	260	160	410	310	540	300	---	---	---	---	380	370
7	220	160	380	300	490	370	---	---	---	---	400	370
8	350	220	---	---	470	350	---	---	---	---	450	330
9	400	350	---	---	470	280	---	---	---	---	450	420
10	430	400	---	---	480	430	---	---	---	---	520	420
11	430	390	---	---	490	340	---	---	---	---	630	440
12	400	380	---	---	470	300	---	---	470	470	620	460
13	410	370	---	---	450	320	---	---	700	470	630	450
14	410	400	400	320	440	360	---	---	580	470	640	490
15	420	400	430	400	---	---	---	---	490	440	620	460
16	490	420	440	360	---	---	---	---	480	440	600	540
17	470	440	430	310	460	410	---	---	470	350	540	430
18	470	430	---	---	430	400	---	---	420	210	590	440
19	460	410	---	---	400	320	---	---	420	240	600	580
20	490	360	---	---	---	---	---	---	610	400	590	580
21	490	370	360	280	---	---	---	---	650	410	600	440
22	480	470	370	360	480	400	---	---	630	410	620	410
23	480	450	380	360	---	---	---	---	640	460	590	440
24	480	430	370	360	---	---	---	---	610	390	440	420
25	450	430	360	350	---	---	---	---	570	400	550	420
26	480	430	500	360	---	---	---	---	620	490	590	420
27	540	470	780	420	390	300	---	---	650	470	580	440
28	580	470	430	380	510	320	---	---	590	450	510	430
29	470	440	400	380	540	420	---	---	570	450	540	400
30	450	430	400	270	450	320	---	---	510	450	450	390
31	---	---	440	400	---	---	---	---	500	440	---	---

3-0938. MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.0	8.0	---	---	7.6	7.5	7.6	7.5
2	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
3	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
4	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
5	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
6	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
7	---	---	7.9	7.4	8.1	8.0	---	---	7.6	7.5	7.6	7.5
8	---	---	7.7	7.4	8.1	8.0	---	---	7.6	7.5	7.6	7.5
9	---	---	7.4	7.1	8.0	8.0	---	---	7.6	7.5	7.6	7.5
10	---	---	7.4	7.2	8.0	8.0	---	---	7.6	7.5	7.6	7.5
11	---	---	7.2	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
12	---	---	---	---	8.1	8.0	---	---	7.6	7.5	7.6	7.5
13	---	---	---	---	---	---	---	---	7.6	7.5	7.6	7.5
14	---	---	---	---	---	---	---	---	7.6	7.5	7.6	7.5
15	---	---	8.3	6.9	---	---	---	---	7.6	7.5	7.6	7.5
16	---	---	7.6	7.4	---	---	---	---	7.6	7.5	7.6	7.5
17	---	---	7.4	7.3	---	---	---	---	7.6	7.5	7.6	7.5
18	---	---	7.4	7.4	---	---	---	---	7.6	7.6	7.6	7.5
19	---	---	7.7	7.4	---	---	---	---	7.6	7.5	7.6	7.6
20	---	---	8.1	7.6	---	---	---	---	7.6	7.5	7.6	7.6
21	---	---	8.0	8.0	---	---	---	---	7.6	7.5	7.6	7.6
22	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.6	7.5
23	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.6	7.5
24	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.5	7.4
25	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.4	7.3
26	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.4	7.2
27	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.4	7.3
28	---	---	8.1	8.0	---	---	---	---	7.6	7.5	7.4	7.3
29	---	---	8.1	8.0	---	---	7.8	---	---	---	7.4	7.3
30	---	---	8.0	8.0	---	---	7.8	7.5	---	---	7.4	7.3
31	---	---	---	---	---	---	7.6	7.5	---	---	7.4	7.3

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.4	7.3	7.6	7.5	---	---	---	---	---	---	---	---
2	7.4	7.3	---	---	---	---	---	---	---	---	---	---
3	7.3	7.3	---	---	---	---	---	---	---	---	---	---
4	7.4	7.3	---	---	---	---	---	---	---	---	---	---
5	7.4	7.3	---	---	---	---	---	---	---	---	---	---
6	7.3	7.3	---	---	---	---	---	---	---	---	---	---
7	7.3	7.3	---	---	---	---	---	---	---	---	---	---
8	7.4	7.3	---	---	---	---	---	---	---	---	---	---
9	7.4	7.4	---	---	---	---	---	---	---	---	---	---
10	7.4	7.4	---	---	---	---	---	---	---	---	---	---
11	7.4	7.4	---	---	---	---	---	---	---	---	---	---
12	7.4	7.3	---	---	---	---	---	---	---	---	---	---
13	7.4	7.4	---	---	---	---	---	---	---	---	---	---
14	7.4	7.3	---	---	---	---	---	---	---	---	---	---
15	7.4	7.3	---	---	---	---	---	---	---	---	---	---
16	7.4	7.3	---	---	---	---	---	---	---	---	---	---
17	7.4	7.3	---	---	---	---	---	---	---	---	---	---
18	7.4	7.3	---	---	---	---	---	---	---	---	---	---
19	7.4	7.3	---	---	---	---	---	---	---	---	---	---
20	7.4	7.3	---	---	---	---	---	---	---	---	---	---
21	7.4	7.3	---	---	---	---	---	---	---	---	---	---
22	7.4	7.3	---	---	---	---	---	---	---	---	---	---
23	7.3	7.3	---	---	---	---	---	---	---	---	---	---
24	7.4	7.3	---	---	---	---	---	---	---	---	---	---
25	7.4	7.3	---	---	---	---	---	---	---	---	---	---
26	7.4	7.3	---	---	---	---	---	---	---	---	---	---
27	7.4	7.3	---	---	---	---	---	---	---	---	---	---
28	7.4	7.3	---	---	---	---	---	---	---	---	---	---
29	7.5	7.4	---	---	---	---	---	---	---	---	---	---
30	7.6	7.5	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-0938. MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.6	6.3	8.8	8.5	9.3	9.0	---	---	10.6	10.2	11.3	10.3
2	6.6	6.3	8.6	8.2	9.6	9.3	---	---	10.7	10.5	11.2	11.2
3	6.6	6.2	8.3	7.8	10.1	9.6	---	---	11.0	10.6	11.3	11.2
4	6.6	6.2	8.2	8.0	10.2	9.7	---	---	11.4	11.0	11.4	11.0
5	7.0	6.6	8.6	8.0	10.1	9.4	---	---	11.5	11.2	11.5	11.0
6	7.5	7.0	8.6	8.0	9.9	9.3	---	---	11.6	11.4	11.5	11.2
7	7.8	6.9	8.0	7.3	9.9	9.1	---	---	11.7	11.5	11.5	11.3
8	7.7	7.1	7.6	7.3	10.2	9.5	---	---	12.1	11.7	11.5	11.2
9	7.5	7.2	7.7	7.3	10.4	9.8	---	---	12.4	12.0	11.5	11.2
10	7.9	7.1	8.3	7.7	10.4	10.1	---	---	12.3	12.1	11.8	11.3
11	8.4	7.1	8.4	8.2	10.6	10.2	---	---	12.1	11.9	11.6	11.3
12	8.3	7.3	---	---	10.8	10.5	---	---	11.9	11.5	11.6	11.3
13	8.0	7.4	---	---	10.9	10.7	---	---	11.6	11.4	11.9	11.4
14	7.9	7.3	---	---	10.9	10.0	---	---	11.5	11.3	11.7	11.5
15	7.4	7.1	9.4	9.1	10.5	10.1	---	---	11.5	11.2	11.9	11.5
16	7.3	7.0	9.6	9.0	10.7	10.3	---	---	11.2	11.0	12.1	11.7
17	7.0	6.7	9.1	8.4	10.6	10.1	---	---	11.0	10.9	12.4	11.9
18	7.0	5.8	8.8	8.5	---	---	---	---	11.1	10.9	12.2	11.9
19	6.0	5.6	9.1	8.5	---	---	---	---	11.2	11.0	12.3	12.1
20	6.4	5.9	9.4	8.9	---	---	---	---	11.2	11.1	12.7	11.8
21	6.9	6.3	10.1	9.4	---	---	---	---	11.4	11.2	12.1	11.3
22	7.0	6.7	10.1	9.9	---	---	---	---	11.4	11.3	11.8	10.8
23	6.9	6.6	10.4	9.9	---	---	---	---	11.4	11.2	12.1	11.3
24	6.7	6.6	10.4	10.0	---	---	---	---	11.4	11.3	12.1	11.5
25	7.1	6.7	10.0	9.7	---	---	---	---	11.6	11.4	11.5	10.3
26	7.5	7.0	9.9	9.7	---	---	---	---	11.6	11.4	10.8	10.2
27	7.8	7.3	10.0	9.8	---	---	---	---	11.5	11.2	11.1	10.6
28	7.9	7.7	10.1	9.9	---	---	---	---	11.4	11.2	11.1	10.9
29	8.5	7.7	10.1	9.7	---	---	13.9	11.2	---	---	11.1	10.8
30	8.5	8.0	9.7	9.1	---	---	11.2	10.6	---	---	11.1	10.7
31	9.9	8.5	---	---	---	---	10.8	10.3	---	---	11.3	10.7

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.4	11.1	11.1	9.5	6.9	6.4	6.3	5.8	---	---	5.7	4.9
2	11.2	10.6	10.9	9.8	6.6	6.3	6.2	5.8	---	---	5.5	5.4
3	10.7	10.4	10.6	9.3	6.3	6.0	5.8	5.6	---	---	5.6	5.4
4	10.7	10.4	10.1	9.0	6.5	6.0	5.8	5.6	---	---	5.9	5.6
5	10.7	9.1	9.4	8.1	6.6	6.3	7.0	5.8	---	---	6.2	5.9
6	9.4	9.0	9.1	7.8	6.5	6.2	6.8	6.1	---	---	6.5	6.2
7	9.8	9.3	8.7	7.4	6.4	6.1	6.7	5.5	---	---	6.6	6.4
8	10.1	9.5	7.6	6.2	6.3	6.0	5.7	5.4	---	---	6.8	6.5
9	10.4	10.0	6.2	5.5	6.4	6.0	6.2	5.6	---	---	6.7	6.6
10	10.0	9.5	6.1	5.5	6.5	6.1	6.4	6.2	---	---	---	---
11	9.5	8.7	6.8	6.1	6.6	6.1	---	---	---	---	---	---
12	9.8	8.9	7.6	6.8	6.5	6.2	---	---	6.6	5.9	---	---
13	9.8	9.6	7.8	7.6	6.3	6.0	---	---	6.3	5.9	---	---
14	9.7	9.3	7.8	7.5	6.2	5.8	---	---	6.9	6.1	---	---
15	9.3	8.7	8.0	7.6	6.2	5.8	---	---	6.3	6.0	---	---
16	8.7	7.8	8.2	7.7	6.7	6.0	---	---	6.2	5.4	---	---
17	8.5	7.8	9.1	7.8	6.7	6.3	---	---	5.6	5.3	---	---
18	8.2	6.7	7.8	7.3	6.6	6.3	---	---	6.0	5.1	---	---
19	7.0	6.2	7.3	5.7	6.5	6.1	---	---	5.8	5.0	---	---
20	9.1	7.0	5.7	5.2	6.6	6.4	---	---	5.1	5.0	---	---
21	9.1	8.8	6.0	5.2	6.8	6.0	---	---	6.2	5.0	---	---
22	9.0	8.8	6.7	6.0	7.0	6.6	5.8	5.1	7.2	6.2	---	---
23	8.8	8.6	7.1	6.7	6.8	6.4	5.4	5.3	6.9	6.5	---	---
24	9.5	8.6	7.1	6.7	6.6	6.2	8.3	---	6.6	6.4	---	---
25	9.7	9.0	6.7	6.3	6.6	6.1	---	---	6.6	6.3	---	---
26	9.5	9.0	6.8	6.3	6.7	6.2	---	---	6.5	6.3	---	---
27	9.8	9.2	7.2	6.6	7.0	6.1	---	---	6.5	6.2	---	---
28	9.2	7.6	7.2	6.7	7.1	6.1	---	---	6.6	6.3	---	---
29	7.6	7.1	6.9	6.4	7.5	6.1	---	---	6.5	6.2	---	---
30	9.5	7.4	6.6	5.8	6.7	5.6	---	---	6.2	5.9	---	---
31	---	---	6.6	6.0	---	---	---	---	5.6	5.4	---	---

3-0938. MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	17.0	11.0	10.0	6.0	4.0	---	---	---	---	2.0	2.0
2	20.0	19.0	12.0	11.0	5.0	4.0	---	---	---	---	2.0	2.0
3	21.0	20.0	12.0	11.0	4.0	3.0	---	---	---	---	3.0	1.0
4	20.0	17.0	12.0	11.0	4.0	3.0	---	---	---	---	3.0	2.0
5	18.0	16.0	12.0	10.0	4.0	4.0	---	---	---	---	3.0	2.0
6	16.0	16.0	12.0	11.0	4.0	4.0	---	---	---	---	3.0	2.0
7	16.0	16.0	12.0	11.0	5.0	4.0	---	---	---	---	3.0	2.0
8	17.0	16.0	11.0	10.0	4.0	3.0	---	---	---	---	3.0	3.0
9	17.0	16.0	10.0	10.0	3.0	2.0	---	---	---	---	3.0	3.0
10	17.0	16.0	10.0	9.0	2.0	1.0	---	---	---	---	3.0	3.0
11	17.0	15.0	9.0	8.0	2.0	1.0	---	---	---	---	3.0	3.0
12	17.0	15.0	---	---	1.0	1.0	---	---	---	---	3.0	2.0
13	17.0	16.0	---	---	1.0	0.0	---	---	---	---	3.0	2.0
14	17.0	16.0	---	---	2.0	0.0	---	---	---	---	2.0	2.0
15	18.0	16.0	7.0	7.0	1.0	0.0	---	---	---	---	2.0	2.0
16	18.0	17.0	8.0	6.0	0.0	0.0	---	---	---	---	3.0	2.0
17	19.0	18.0	7.0	6.0	1.0	0.0	---	---	---	---	3.0	2.0
18	19.0	18.0	8.0	7.0	2.0	0.0	---	---	---	---	4.0	3.0
19	19.0	17.0	8.0	6.0	---	---	---	---	---	---	5.0	4.0
20	17.0	16.0	9.0	4.0	---	---	---	---	---	---	7.0	5.0
21	16.0	15.0	4.0	3.0	---	---	---	---	---	---	7.0	7.0
22	16.0	15.0	3.0	3.0	---	---	---	---	---	---	7.0	5.0
23	15.0	14.0	3.0	3.0	---	---	---	---	---	---	7.0	4.0
24	15.0	14.0	3.0	2.0	---	---	---	---	---	---	7.0	6.0
25	14.0	13.0	4.0	3.0	---	---	---	---	3.0	2.0	6.0	6.0
26	13.0	12.0	4.0	4.0	---	---	---	---	2.0	2.0	6.0	4.0
27	13.0	12.0	4.0	3.0	---	---	---	---	2.0	2.0	4.0	4.0
28	12.0	11.0	4.0	3.0	---	---	---	---	2.0	1.0	4.0	3.0
29	12.0	11.0	5.0	4.0	---	---	---	---	---	---	5.0	4.0
30	11.0	9.0	6.0	5.0	---	---	---	---	---	---	5.0	4.0
31	10.0	9.0	---	---	---	---	---	---	---	---	4.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.0	2.0	13.0	11.0	19.0	18.0	24.0	22.0	---	---	23.0	21.0
2	4.0	2.0	15.0	13.0	21.0	19.0	23.0	21.0	---	---	22.0	22.0
3	5.0	3.0	17.0	14.0	21.0	17.0	22.0	21.0	---	---	22.0	21.0
4	6.0	4.0	17.0	16.0	17.0	16.0	21.0	20.0	---	---	22.0	21.0
5	8.0	6.0	18.0	16.0	17.0	16.0	24.0	21.0	---	---	22.0	21.0
6	9.0	8.0	18.0	16.0	18.0	17.0	22.0	21.0	---	---	23.0	22.0
7	9.0	7.0	18.0	17.0	18.0	17.0	22.0	19.0	---	---	23.0	22.0
8	9.0	8.0	19.0	18.0	18.0	18.0	20.0	19.0	---	---	23.0	22.0
9	10.0	8.0	19.0	17.0	18.0	17.0	21.0	19.0	---	---	23.0	21.0
10	11.0	10.0	17.0	14.0	18.0	17.0	21.0	20.0	---	---	21.0	19.0
11	11.0	10.0	14.0	13.0	18.0	17.0	22.0	21.0	---	---	20.0	18.0
12	11.0	9.0	13.0	12.0	21.0	18.0	23.0	17.0	23.0	22.0	19.0	18.0
13	10.0	8.0	13.0	12.0	21.0	21.0	---	---	23.0	22.0	20.0	18.0
14	11.0	9.0	16.0	13.0	22.0	21.0	---	---	24.0	22.0	20.0	19.0
15	11.0	10.0	16.0	14.0	21.0	21.0	---	---	24.0	23.0	20.0	19.0
16	12.0	11.0	16.0	15.0	22.0	18.0	---	---	24.0	24.0	20.0	19.0
17	13.0	12.0	17.0	16.0	18.0	17.0	---	---	24.0	22.0	21.0	20.0
18	14.0	13.0	20.0	17.0	19.0	18.0	---	---	24.0	22.0	20.0	19.0
19	13.0	8.0	23.0	18.0	19.0	18.0	---	---	24.0	22.0	20.0	18.0
20	8.0	7.0	20.0	17.0	21.0	19.0	---	---	23.0	22.0	18.0	17.0
21	9.0	8.0	18.0	17.0	20.0	18.0	---	---	22.0	21.0	18.0	16.0
22	9.0	8.0	17.0	16.0	19.0	18.0	22.0	21.0	22.0	20.0	18.0	16.0
23	9.0	8.0	16.0	15.0	21.0	19.0	23.0	21.0	21.0	20.0	18.0	17.0
24	9.0	7.0	16.0	15.0	21.0	19.0	---	---	22.0	20.0	18.0	18.0
25	10.0	8.0	16.0	15.0	21.0	19.0	---	---	22.0	21.0	18.0	18.0
26	11.0	9.0	16.0	15.0	21.0	20.0	---	---	23.0	21.0	18.0	17.0
27	13.0	11.0	16.0	15.0	23.0	21.0	---	---	23.0	21.0	18.0	17.0
28	13.0	12.0	17.0	15.0	24.0	22.0	---	---	22.0	20.0	17.0	17.0
29	12.0	11.0	18.0	17.0	24.0	23.0	---	---	21.0	20.0	17.0	15.0
30	11.0	9.0	19.0	18.0	24.0	22.0	---	---	22.0	21.0	16.0	15.0
31	---	---	19.0	18.0	---	---	---	---	23.0	21.0	---	---

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO

LOCATION.--Lat 41°01'53", long 80°31'10", Mahoning County, on left bank, 800 ft upstream from Ohio-Pennsylvania State line, just below Lowellville, 0.9 mile downstream from gaging station at Lowellville, and 4 miles downstream from Yellow Creek.
DRAINAGE AREA.--1,075 sq mi.
PERIOD OF RECORD.--Chemical analyses: January 1967 to September 1969.
Water temperatures: January 1967 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 980 micromhos Mar. 15, 17; minimum, 230 micromhos Dec. 29, 30.
pH: Maximum, 9.9 Jan. 26; minimum, 5.3 Mar. 11.
Dissolved oxygen: Maximum, 11.5 mg/l Jan. 26, 27; minimum, 0.4 mg/l Apr. 8.
Water temperatures: Maximum, 37°C Aug. 30, Sept. 1, 2; minimum, 3°C Dec. 29, 30, Jan. 19, 27.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.								
18...	1300	670	660	310	68	0	151	70
21...	1000	646	--	--	72	0	138	44
NOV.								
15...	1145	534	1300	420	72	0	155	68
29...	1230	2580	720	270	72	0	116	32
DEC.								
06...	1230	2210	1500	170	69	0	90	28
20...	1145	650	1400	490	64	0	130	52
JAN.								
17...	1030	440	2100	500	36	0	173	84
20...	0940	2200	--	--	51	0	76	31
FEB.								
03...	1815	1300	--	--	52	0	102	34
MAR.								
17...	1355	325	2000	500	76	0	191	94
26...	0755	1230	--	--	76	0	137	60
APR.								
07...	1000	3800	1500	290	60	0	62	20
14...	1420	531	6600	560	48	0	147	60
MAY								
05...	1330	524	1200	480	56	0	137	70
26...	1330	1530	6400	300	48	0	75	32
JUNE								
14...	1700	504	540	540	48	0	159	60
23...	1500	760	880	610	40	0	126	55
JULY								
01...	2200	545	--	--	72	0	136	64
07...	1300	1490	1300	320	76	0	110	33
31...	1415	--	--	--	--	--	--	--
AUG.								
07...	2330	594	1500	870	2	0	187	72
14...	0900	--	--	--	--	--	--	--
19...	1445	776	740	320	58	0	123	58
SEPT.								
02...	1745	510	710	--	40	0	128	65
04...	1400	--	--	--	--	--	--	--
21...	1200	456	960	--	10	0	145	78

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO--Continued

EXTREMES, 1967-69.--Specific conductance (1968-69): Maximum, 980 micromhos Mar. 15, 17, 1969; minimum, 230 micromhos Dec. 29, 30, 1968.
pH (1968-69): Maximum, 9.9 Jan. 26, 1969; minimum, 5.3 Mar. 11, 1969.
Dissolved oxygen (1968-69): Maximum, 11.5 mg/l Jan. 26, 27, 1969; minimum, 0.4 mg/l Apr. 8, 1969.
Water temperatures: Maximum, 37°C Aug. 30, Sept. 1, 2, 1969; minimum, 3°C Dec. 29, 30, 1968, Jan. 19, 27, 1969.
REMARKS.--Continuous water quality recorder operated since January 1967. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Beginning July 1969 an additional sample was collected as part of the Federal Water Quality Administration national network. Records of discharge are given for 03-0995.00 Mahoning River at Lowellville, Ohio (drainage area 1,073 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.						
18...	1.0	21	416	230	175	730
21...	.7	15	336	215	156	587
NOV.						
15...	1.1	20	432	235	176	728
29...	.6	5.8	272	195	136	482
DEC.						
06...	.4	6.5	240	150	94	413
20...	.6	19	356	195	143	589
JAN.						
17...	.8	27	476	238	209	783
20...	.2	8.1	228	136	94	374
FEB.						
03...	.5	13	296	155	113	459
MAR.						
17...	2.2	22	604	264	202	921
26...	.9	10	440	213	151	652
APR.						
07...	.4	4.2	208	122	73	318
14...	1.0	21	402	210	171	645
MAY						
05...	1.1	9.7	416	200	154	649
26...	.7	9.2	248	132	92	390
JUNE						
14...	1.2	23	444	220	181	672
23...	1.8	26	392	195	162	626
JULY						
01...	1.3	19	434	222	163	668
07...	1.1	11	314	192	130	487
31...	--	--	368	--	--	564
AUG.						
07...	3.4	21	490	245	245	702
14...	--	--	402	--	--	658
19...	1.0	21	414	208	161	604
SEPT.						
02...	1.2	24	388	197	164	611
04...	--	--	394	--	--	632
21...	1.2	26	426	200	192	668

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	730	630	710	670	---	---	---	---	---	---	890	800
2	730	620	810	670	---	---	---	---	---	---	860	750
3	730	640	730	680	---	---	460	420	500	---	900	790
4	670	640	740	690	---	---	480	460	530	450	950	810
5	760	640	730	690	---	---	490	470	490	450	920	860
6	760	610	730	690	---	---	600	490	510	470	920	780
7	640	580	770	650	370	320	590	570	510	460	810	750
8	620	580	730	710	380	320	620	590	490	470	820	780
9	670	610	730	660	440	370	640	620	530	490	820	780
10	700	610	810	690	440	410	670	640	520	480	830	770
11	810	610	820	690	490	440	730	670	530	500	860	780
12	750	660	770	690	520	450	700	690	580	520	960	860
13	670	640	760	680	520	500	710	700	660	560	940	860
14	670	650	790	760	590	520	710	680	690	610	950	850
15	660	620	800	670	580	500	710	690	750	620	980	930
16	700	620	690	610	510	490	770	710	760	660	950	920
17	720	670	610	430	560	500	840	770	790	720	980	920
18	730	560	490	420	610	540	910	600	770	750	960	850
19	590	500	530	450	680	570	610	400	770	700	880	830
20	600	540	620	500	680	590	---	---	780	690	900	850
21	630	560	760	550	620	560	---	---	790	740	880	850
22	630	580	640	590	600	560	---	---	790	760	870	830
23	710	610	680	590	600	520	---	---	800	790	830	780
24	750	640	650	570	---	---	480	450	870	780	780	740
25	750	700	580	550	510	480	500	460	830	770	760	720
26	760	710	680	540	520	470	480	450	860	740	720	680
27	760	730	600	560	840	520	500	450	810	740	680	580
28	750	720	620	440	540	360	530	500	820	780	610	550
29	760	670	490	410	360	230	570	500	---	---	650	580
30	710	660	---	---	330	230	510	470	---	---	600	550
31	710	690	---	---	400	330	470	320	---	---	610	560

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	620	540	570	490	660	640	690	650	---	---	630	610
2	640	550	550	510	670	650	650	600	---	---	620	600
3	660	560	600	540	650	620	700	610	650	---	630	610
4	580	500	620	570	620	590	700	640	690	630	670	630
5	540	490	640	620	620	600	650	450	660	590	640	610
6	500	360	720	640	600	580	560	480	670	640	660	620
7	410	320	650	540	630	580	510	470	700	640	650	610
8	400	360	650	490	650	630	490	450	700	600	660	580
9	460	380	630	520	670	650	560	490	690	630	710	630
10	510	410	570	530	680	660	610	560	680	620	670	630
11	540	480	530	470	710	650	650	580	700	660	690	640
12	560	380	470	440	660	640	660	600	680	630	700	640
13	570	510	520	470	690	660	680	520	670	610	700	640
14	640	520	540	510	710	670	680	630	660	610	700	620
15	680	600	580	540	680	630	670	610	660	600	670	620
16	740	---	600	540	670	650	670	630	700	630	680	610
17	---	---	570	530	680	630	670	610	700	660	650	580
18	---	---	530	510	660	630	650	580	720	660	680	580
19	---	---	510	490	670	660	620	550	660	580	690	620
20	---	---	490	410	680	670	630	610	630	580	670	630
21	---	---	410	370	700	670	610	560	660	620	670	620
22	---	---	460	410	680	660	650	580	670	640	680	630
23	---	---	460	450	660	630	620	580	710	610	660	630
24	---	---	450	420	640	610	640	530	660	600	660	640
25	---	---	420	400	640	610	680	580	660	630	670	640
26	---	---	410	390	650	630	690	640	690	620	690	660
27	---	---	450	410	670	650	680	660	660	630	700	660
28	---	---	500	450	670	660	660	---	700	640	680	650
29	---	---	580	500	690	670	---	---	700	640	690	650
30	500	480	620	580	710	690	---	---	680	630	700	670
31	---	---	650	610	---	---	---	---	670	610	---	---

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.8	6.5	6.9	6.3	---	---	---	---	---	---	6.7	6.0
2	6.8	6.6	6.7	6.2	---	---	---	---	---	---	6.8	6.6
3	6.8	5.8	7.0	6.7	---	---	7.3	6.8	---	---	6.9	6.2
4	6.7	6.1	7.0	6.5	---	---	7.2	6.5	8.5	7.1	6.5	5.8
5	6.8	6.6	6.8	6.4	---	---	6.9	6.1	9.1	8.4	6.5	6.0
6	6.9	6.6	7.0	6.4	---	---	6.5	5.9	9.0	7.9	6.4	5.9
7	6.9	6.7	6.8	6.5	7.7	7.3	6.8	5.9	8.5	7.5	6.5	6.1
8	6.9	6.8	---	---	8.3	7.5	7.0	6.4	8.2	7.4	6.5	6.3
9	6.9	6.3	---	---	7.9	7.2	7.0	6.4	8.6	7.9	6.7	6.5
10	7.0	6.1	---	---	7.7	6.7	7.8	7.0	8.8	7.7	6.7	6.5
11	6.8	6.5	---	---	7.7	6.5	7.5	6.6	8.5	7.0	6.6	5.3
12	6.9	6.7	---	---	7.3	6.3	7.1	6.5	8.2	7.4	6.4	6.1
13	6.9	6.7	---	---	6.6	6.2	7.0	6.5	8.1	7.2	6.3	6.0
14	6.8	6.5	---	---	7.2	6.6	7.0	6.6	7.6	7.2	6.7	6.0
15	6.7	6.4	---	---	7.3	6.1	6.8	6.5	7.7	6.8	6.3	5.8
16	6.8	6.0	---	---	7.6	6.8	7.2	6.7	7.5	7.0	6.4	6.1
17	6.7	6.5	---	---	7.2	6.7	6.7	6.0	7.3	6.5	6.6	5.9
18	6.8	6.5	---	---	6.7	6.3	7.5	6.3	7.0	6.3	6.2	5.6
19	7.1	6.8	---	---	6.5	6.2	9.0	7.3	7.0	6.8	6.2	5.8
20	7.0	6.8	6.8	5.8	6.6	5.8	---	---	7.1	6.6	6.7	5.7
21	7.0	6.4	6.6	5.8	6.8	6.1	---	---	6.9	5.9	6.5	5.9
22	6.9	6.7	6.6	5.7	6.9	6.4	---	---	6.6	6.3	6.5	6.0
23	6.8	5.9	6.5	5.9	7.0	6.4	---	---	6.8	6.5	6.7	6.5
24	6.8	6.1	6.5	6.3	---	---	7.4	6.9	6.8	6.0	6.6	6.4
25	6.8	6.3	6.6	6.3	8.4	7.6	9.1	7.3	6.8	6.5	6.8	6.6
26	6.9	6.6	6.4	5.7	8.2	7.6	9.9	9.1	6.9	6.5	7.4	6.7
27	6.8	6.6	6.2	5.6	8.1	6.0	9.7	8.7	6.8	6.1	7.6	6.5
28	7.0	6.8	6.2	5.6	9.0	7.3	9.1	7.9	6.9	6.3	7.4	6.9
29	6.8	6.5	6.6	6.2	9.6	8.0	8.2	6.7	---	---	7.1	6.3
30	6.9	6.6	---	---	8.0	6.9	7.7	7.1	---	---	7.1	6.8
31	6.9	6.5	---	---	7.2	6.6	8.0	7.5	---	---	7.2	6.6

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.5	7.4	6.6	7.5	7.3	6.9	6.7	7.0	6.3	7.6	7.2
2	7.3	6.5	7.4	6.8	7.6	7.4	6.9	6.3	7.3	6.6	7.5	7.2
3	7.5	6.9	7.2	6.6	7.8	7.0	6.9	6.0	7.5	7.0	7.4	6.6
4	7.6	7.1	7.2	7.1	7.8	6.8	6.8	6.5	7.3	7.0	7.4	6.6
5	7.7	7.0	7.3	7.1	7.8	7.6	7.3	6.7	7.3	6.8	7.1	6.8
6	8.0	7.7	7.2	6.6	7.8	7.0	7.4	7.1	7.1	6.5	7.1	6.5
7	8.2	6.5	7.3	7.1	7.8	6.9	7.6	7.4	7.1	6.5	7.0	6.9
8	7.4	6.7	8.1	7.3	7.8	7.0	7.6	7.5	6.8	6.5	7.1	6.6
9	6.9	6.5	8.1	7.3	8.1	7.1	7.8	7.6	7.3	6.1	6.6	5.9
10	6.8	6.5	8.9	8.0	7.7	7.5	7.9	7.2	7.3	7.0	6.6	6.1
11	6.7	6.3	8.8	8.4	7.8	7.3	7.4	7.0	7.1	6.9	6.6	6.4
12	6.9	6.2	8.9	7.8	7.9	7.2	7.6	7.2	7.2	6.8	6.6	6.2
13	7.0	6.8	8.6	8.1	7.7	7.4	8.0	7.5	7.1	6.3	6.6	6.4
14	6.9	6.7	8.2	7.5	7.8	7.3	7.7	6.8	7.1	6.8	6.6	6.2
15	6.9	6.7	8.3	7.2	7.6	7.4	7.4	6.9	7.1	6.5	6.6	6.2
16	7.0	6.9	8.1	6.9	7.6	7.3	7.5	6.8	7.2	6.7	6.6	5.9
17	---	---	8.0	7.4	7.5	7.2	7.6	7.1	7.3	6.7	6.7	6.4
18	---	---	8.0	7.7	7.4	7.2	7.5	7.0	7.2	6.5	6.7	6.2
19	---	---	7.9	7.8	7.2	7.0	7.5	7.2	7.2	6.8	6.7	6.2
20	---	---	7.9	7.7	7.1	7.0	7.7	7.3	7.4	7.0	7.0	6.0
21	---	---	7.8	7.6	7.1	6.9	7.4	7.3	7.6	7.3	7.0	6.8
22	---	---	7.9	7.6	7.0	6.9	7.3	6.7	7.6	7.5	6.9	6.6
23	---	---	7.9	7.8	6.9	6.9	7.4	6.7	7.5	7.1	6.7	6.5
24	---	---	8.0	7.7	7.0	6.8	7.5	7.1	7.6	7.4	6.7	6.4
25	---	---	7.9	7.6	6.9	6.8	7.5	6.8	7.7	7.1	6.7	6.2
26	---	---	7.7	7.6	6.9	6.8	7.4	6.8	7.2	7.0	6.8	6.3
27	---	---	8.2	7.0	6.8	6.7	7.4	7.2	7.5	6.5	6.7	6.0
28	---	---	7.9	6.9	6.9	6.8	7.5	6.7	7.7	6.6	6.9	6.4
29	---	---	7.7	7.4	7.0	6.7	7.4	7.0	7.7	7.1	6.9	6.6
30	7.4	7.2	7.5	7.3	6.9	6.8	7.2	6.7	7.5	6.7	6.8	6.2
31	---	---	7.5	7.3	---	---	7.1	6.8	7.7	7.0	---	---

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.3	1.2	---	---	---	---	---	---	---	---	4.4	3.5
2	2.9	1.2	---	---	---	---	---	---	---	---	4.1	2.7
3	2.0	1.4	---	---	---	---	4.2	3.0	10.1	---	3.8	2.1
4	2.1	1.5	---	---	---	---	5.0	3.6	10.4	9.8	2.5	1.5
5	1.8	1.2	---	---	---	---	4.0	3.4	10.8	10.4	2.2	1.5
6	2.0	1.5	---	---	---	---	4.0	3.2	10.8	10.2	2.9	2.2
7	2.0	1.4	---	---	8.7	7.3	4.6	3.7	10.5	8.9	3.0	2.5
8	1.9	1.3	6.3	3.6	9.7	8.7	3.8	3.7	10.8	10.1	2.9	1.8
9	---	---	6.5	5.4	9.5	8.7	3.7	3.1	11.1	10.5	2.9	1.7
10	---	---	7.1	5.7	8.9	7.6	4.6	3.4	11.2	10.6	3.2	2.2
11	---	---	7.2	5.8	8.4	7.4	5.2	4.6	10.6	9.8	3.5	2.7
12	---	---	7.2	5.0	7.9	6.3	5.3	5.0	10.6	9.4	4.0	3.2
13	---	---	7.2	6.3	6.4	5.0	5.3	4.9	9.5	8.7	---	---
14	---	---	7.0	6.5	6.3	5.4	5.1	4.8	9.0	7.3	---	2.0
15	---	---	7.1	5.1	6.7	4.5	5.1	4.6	7.4	6.6	3.3	2.7
16	---	---	9.9	5.8	5.8	4.3	5.1	4.6	7.5	6.7	3.7	1.8
17	---	---	---	---	5.7	4.5	4.9	4.6	7.6	6.3	2.8	1.6
18	---	---	---	---	5.6	4.4	8.8	4.9	7.5	6.6	1.9	1.2
19	---	---	---	---	5.0	4.3	11.1	8.8	7.7	5.9	1.7	1.5
20	---	---	8.2	7.5	5.2	4.3	---	---	5.9	5.8	1.6	1.4
21	---	---	7.8	7.3	6.7	5.2	---	---	5.8	4.5	3.2	1.4
22	---	---	7.4	6.7	6.4	4.8	---	---	5.0	4.5	4.2	3.2
23	---	---	7.5	6.6	5.6	2.7	---	---	---	---	5.8	4.2
24	---	---	7.5	7.3	---	---	10.0	9.7	---	---	6.2	5.5
25	---	---	7.4	6.9	7.5	7.0	10.9	9.8	5.7	4.6	7.1	6.2
26	---	---	7.1	6.3	7.2	6.3	11.5	10.9	5.4	5.1	8.4	6.6
27	---	---	6.4	5.4	7.3	6.7	11.5	10.9	5.2	4.3	7.6	7.3
28	---	---	6.2	5.3	8.2	5.1	10.9	10.1	4.6	4.4	7.3	4.8
29	---	---	6.9	5.0	6.2	5.6	10.2	9.5	---	---	4.8	3.2
30	---	---	---	---	7.8	6.2	10.0	9.5	---	---	4.7	4.1
31	---	---	---	---	6.7	5.2	10.2	9.6	---	---	5.4	4.7

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.2	5.2	5.6	4.7	2.3	1.4	2.3	1.4	1.5	0.6	3.0	1.5
2	7.2	6.2	4.9	3.9	2.0	1.2	3.1	1.6	1.4	0.6	3.3	1.0
3	7.2	6.4	4.1	2.2	3.0	0.8	3.0	1.8	1.4	1.0	2.9	1.7
4	7.6	4.7	2.4	1.7	3.1	2.0	2.5	1.6	1.2	---	3.6	1.8
5	4.7	2.1	1.9	1.2	2.3	1.5	3.7	1.3	1.9	---	3.8	2.3
6	3.4	2.9	1.5	1.4	2.5	0.7	4.4	3.0	2.0	1.4	3.2	2.1
7	5.0	3.4	1.6	1.5	2.0	1.2	4.0	3.7	1.9	1.6	2.7	2.1
8	3.5	0.4	4.2	1.6	1.9	1.3	3.7	2.0	1.6	1.0	3.6	1.9
9	---	---	6.8	3.9	2.4	1.7	2.0	1.1	1.7	1.2	4.0	3.5
10	---	---	7.5	6.3	2.0	1.5	1.3	0.7	1.8	1.4	3.7	2.8
11	---	---	7.3	6.0	2.0	1.5	1.4	0.6	2.0	1.8	3.1	2.1
12	---	---	7.2	6.7	2.3	1.5	2.1	1.0	2.5	1.7	2.7	1.3
13	---	---	8.4	7.2	2.4	1.4	3.3	1.8	3.2	2.5	2.2	1.4
14	---	---	7.3	5.9	2.3	1.5	4.0	1.4	3.6	2.2	2.5	1.2
15	---	---	6.9	5.3	2.0	1.4	4.1	2.0	3.3	1.5	2.3	1.3
16	---	---	5.6	4.5	2.1	1.5	3.6	1.9	3.3	2.3	3.2	2.1
17	---	---	5.6	4.9	2.0	1.1	2.6	1.5	3.7	2.0	2.1	0.9
18	---	---	5.6	5.1	2.0	1.4	2.8	1.6	3.0	1.8	1.8	1.3
19	---	---	5.1	4.0	2.2	1.5	3.4	2.1	3.3	1.5	1.7	1.1
20	---	---	4.7	3.7	2.0	1.4	---	---	3.4	2.4	1.6	0.8
21	---	---	5.4	4.2	2.7	1.9	3.9	3.3	3.6	2.2	2.1	1.4
22	---	---	5.2	4.5	3.3	2.2	3.3	1.8	3.4	2.0	2.7	1.6
23	---	---	6.7	5.1	3.2	2.3	2.0	1.5	4.0	1.7	2.2	1.5
24	---	---	5.6	5.3	3.2	1.9	2.1	1.2	4.1	2.6	3.9	1.4
25	---	---	6.0	5.2	3.0	2.3	2.1	1.5	4.3	2.6	3.1	2.5
26	---	---	5.4	3.9	2.8	1.9	2.2	1.5	3.9	2.1	2.7	2.0
27	---	---	4.7	3.5	2.9	1.9	2.0	1.4	4.7	2.2	2.2	1.7
28	---	---	3.6	2.2	3.0	2.1	3.0	1.4	3.7	1.6	2.3	1.7
29	---	---	2.3	1.1	3.2	1.9	3.0	1.8	3.7	1.2	2.0	1.5
30	5.9	5.3	1.9	1.2	3.3	2.1	2.2	1.4	3.3	1.9	2.4	1.5
31	---	---	2.1	1.6	---	---	1.5	0.7	3.7	2.1	---	---

3-0995.1. MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	30.0	27.0	24.0	20.0	--	--	--	--	--	--	19.0	17.0
2	30.0	28.0	25.0	23.0	--	--	--	--	--	--	19.0	17.0
3	30.0	28.0	23.0	22.0	--	--	12.0	6.0	7.0	--	20.0	17.0
4	28.0	27.0	24.0	22.0	--	--	13.0	11.0	8.0	6.0	20.0	18.0
5	27.0	25.0	26.0	23.0	--	--	11.0	7.0	6.0	5.0	21.0	18.0
6	26.0	24.0	25.0	24.0	--	--	10.0	6.0	6.0	5.0	22.0	20.0
7	25.0	24.0	24.0	24.0	12.0	11.0	10.0	7.0	7.0	6.0	22.0	19.0
8	25.0	24.0	24.0	22.0	12.0	11.0	11.0	8.0	7.0	6.0	22.0	20.0
9	27.0	24.0	22.0	21.0	12.0	11.0	14.0	8.0	6.0	5.0	22.0	19.0
10	27.0	25.0	21.0	20.0	13.0	11.0	13.0	8.0	6.0	5.0	20.0	19.0
11	26.0	25.0	21.0	19.0	13.0	11.0	14.0	9.0	7.0	6.0	19.0	18.0
12	28.0	26.0	21.0	18.0	13.0	11.0	16.0	11.0	8.0	6.0	20.0	18.0
13	28.0	26.0	19.0	17.0	13.0	11.0	18.0	12.0	8.0	7.0	21.0	19.0
14	27.0	26.0	21.0	18.0	13.0	11.0	17.0	15.0	10.0	8.0	21.0	20.0
15	28.0	26.0	20.0	19.0	11.0	7.0	16.0	10.0	11.0	9.0	21.0	20.0
16	29.0	27.0	19.0	15.0	9.0	7.0	17.0	7.0	12.0	11.0	21.0	20.0
17	30.0	28.0	15.0	13.0	11.0	9.0	18.0	16.0	15.0	12.0	24.0	20.0
18	30.0	26.0	13.0	12.0	14.0	11.0	18.0	9.0	17.0	15.0	26.0	23.0
19	26.0	23.0	14.0	12.0	15.0	13.0	9.0	3.0	17.0	16.0	27.0	24.0
20	24.0	22.0	14.0	12.0	15.0	14.0	--	--	17.0	16.0	26.0	24.0
21	23.0	22.0	14.0	12.0	14.0	13.0	--	--	19.0	16.0	25.0	22.0
22	24.0	22.0	16.0	13.0	13.0	12.0	--	--	18.0	16.0	23.0	21.0
23	26.0	23.0	16.0	13.0	13.0	9.0	--	--	17.0	15.0	21.0	20.0
24	26.0	24.0	16.0	13.0	--	--	10.0	9.0	17.0	16.0	20.0	19.0
25	26.0	24.0	14.0	13.0	5.0	4.0	9.0	6.0	17.0	16.0	20.0	17.0
26	25.0	23.0	16.0	13.0	8.0	5.0	6.0	5.0	17.0	15.0	17.0	13.0
27	24.0	22.0	17.0	16.0	10.0	7.0	6.0	3.0	19.0	16.0	14.0	12.0
28	24.0	21.0	17.0	14.0	7.0	4.0	8.0	5.0	19.0	17.0	16.0	13.0
29	22.0	19.0	14.0	10.0	4.0	3.0	9.0	7.0	--	--	17.0	15.0
30	22.0	19.0	--	--	7.0	3.0	9.0	6.0	--	--	15.0	12.0
31	23.0	20.0	--	--	10.0	7.0	6.0	4.0	--	--	15.0	12.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	14.0	23.0	18.0	33.0	31.0	35.0	32.0	34.0	32.0	37.0	36.0
2	18.0	12.0	28.0	23.0	33.0	30.0	34.0	32.0	34.0	32.0	37.0	36.0
3	12.0	10.0	29.0	25.0	30.0	29.0	34.0	33.0	34.0	32.0	36.0	35.0
4	14.0	10.0	29.0	26.0	29.0	27.0	34.0	33.0	33.0	32.0	36.0	34.0
5	15.0	10.0	29.0	26.0	30.0	28.0	33.0	27.0	33.0	31.0	35.0	34.0
6	11.0	10.0	28.0	26.0	30.0	28.0	29.0	27.0	34.0	33.0	36.0	34.0
7	13.0	9.0	29.0	25.0	31.0	29.0	27.0	25.0	34.0	33.0	35.0	34.0
8	16.0	12.0	27.0	25.0	31.0	29.0	30.0	26.0	34.0	32.0	34.0	32.0
9	18.0	15.0	26.0	24.0	31.0	28.0	32.0	29.0	33.0	32.0	33.0	31.0
10	19.0	17.0	25.0	22.0	32.0	29.0	33.0	32.0	32.0	31.0	32.0	31.0
11	19.0	17.0	22.0	20.0	34.0	31.0	35.0	32.0	33.0	31.0	34.0	32.0
12	20.0	16.0	20.0	19.0	35.0	33.0	34.0	33.0	33.0	31.0	34.0	33.0
13	22.0	18.0	19.0	16.0	35.0	33.0	33.0	32.0	34.0	32.0	34.0	32.0
14	22.0	20.0	22.0	19.0	35.0	33.0	33.0	31.0	35.0	33.0	34.0	32.0
15	24.0	22.0	22.0	19.0	33.0	29.0	34.0	32.0	34.0	33.0	34.0	32.0
16	27.0	24.0	23.0	22.0	30.0	27.0	35.0	34.0	34.0	34.0	34.0	33.0
17	--	--	24.0	22.0	29.0	26.0	36.0	35.0	35.0	34.0	34.0	31.0
18	--	--	23.0	21.0	29.0	28.0	36.0	33.0	35.0	34.0	33.0	31.0
19	--	--	21.0	20.0	32.0	29.0	35.0	33.0	34.0	29.0	33.0	32.0
20	--	--	21.0	20.0	31.0	30.0	34.0	32.0	31.0	29.0	34.0	32.0
21	--	--	22.0	20.0	32.0	30.0	35.0	32.0	32.0	30.0	33.0	31.0
22	--	--	21.0	20.0	32.0	29.0	33.0	32.0	33.0	31.0	33.0	30.0
23	--	--	20.0	19.0	32.0	31.0	33.0	31.0	34.0	32.0	34.0	32.0
24	--	--	21.0	19.0	32.0	29.0	32.0	29.0	34.0	32.0	33.0	32.0
25	--	--	21.0	20.0	34.0	32.0	32.0	29.0	34.0	33.0	33.0	32.0
26	--	--	21.0	19.0	35.0	33.0	32.0	29.0	34.0	32.0	33.0	32.0
27	--	--	23.0	20.0	35.0	34.0	32.0	30.0	34.0	32.0	32.0	31.0
28	--	--	27.0	22.0	35.0	35.0	30.0	28.0	34.0	33.0	31.0	29.0
29	--	--	30.0	27.0	35.0	33.0	30.0	25.0	36.0	34.0	30.0	28.0
30	20.0	19.0	32.0	30.0	36.0	33.0	31.0	29.0	37.0	35.0	31.0	29.0
31	--	--	32.0	30.0	--	--	33.0	30.0	36.0	35.0	--	--

3-1107. OHIO RIVER AT STRATTON, OHIO

LOCATION.--Lat 40°31'57", long 80°37'30", Jefferson County, at Ohio River Valley Water Sanitation Commission (ORSANCO) monitor, at W. H. Sammis Plant of the Ohio Edison Company at Stratton.
DRAINAGE AREA.--23,500 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: January 1961 to June 1963 (at New Cumberland Dam), July 1963 to October 1964 (at East Liverpool), November 1964 to September 1969.
Water temperatures: January 1961 to June 1963 (at New Cumberland Dam), July 1963 to October 1964 (at East Liverpool), November 1964 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
01...	1010	60	430	--	--	196	32	.6
19...	1100	140	100	36	0	168	32	.6
29...	0930	130	550	--	--	156	28	.5
NOV.								
12...	0900	210	470	25	0	140	24	.4
15...	--	--	--	--	--	223	22	.4
29...	--	450	300	--	--	77	18	.2
DEC.								
06...	1000	270	400	24	0	71	18	.2
23...	0900	630	480	--	--	99	21	.2
31...	0900	540	760	--	--	60	16	.1
JAN.								
02...	1400	710	470	--	--	63	14	.1
09...	1430	760	410	22	0	68	18	.1
20...	0800	560	600	--	--	93	29	.2
FEB.								
03...	--	250	560	--	--	57	12	.0
20...	--	730	430	17	0	83	18	.1
28...	--	600	600	--	--	97	20	.2
MAR.								
13...	1100	460	720	14	0	129	23	.3
24...	0900	640	1200	--	--	163	25	.4
28...	0900	380	600	--	--	106	19	.2
APR.								
03...	1100	470	340	--	--	91	16	.2
09...	0900	310	450	--	--	54	11	.1
24...	0900	160	170	20	0	74	14	.1
MAY								
09...	1500	190	270	--	--	94	16	.2
19...	0900	160	330	26	0	83	15	.2
23...	0900	240	100	--	--	60	13	.2
JUNE								
03...	0900	100	80	--	--	78	14	.3
10...	0900	90	200	31	0	89	18	.3
24...	1510	140	320	--	--	137	25	.6
JULY								
01...	0730	--	--	--	--	155	22	.5
28...	0915	40	270	28	0	142	18	.4
30...	0915	100	250	--	--	120	18	.4
AUG.								
05...	1030	260	500	16	0	113	17	.3
19...	0920	260	510	--	--	152	18	.3
25...	0930	580	450	--	--	101	14	.4
SEPT.								
02...	0915	30	150	--	--	112	20	.3
18...	1050	50	280	22	0	134	22	.4
25...	0910	50	280	--	--	133	34	.5

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01-31	0	0	20	20	20	0	0	0
NOV.								
01-30	0	20	20	10	100	0	0	0
DEC.								
01-31	0	10	10	0	40	0	0	0
JAN.								
01-31	0	10	50	0	80	0	0	0
FEB.								
01-28	0	0	10	0	70	0	0	0
MAR.								
04-28	0	20	20	0	180	0	0	0
APR.								
01-30	0	10	30	0	30	0	0	0
MAY								
01-31	0	0	0	0	90	0	0	0
JUNE								
01-30	0	0	10	20	20	0	0	0
JULY								
01-31	0	0	10	0	40	0	0	0
AUG.								
01-31	0	20	10	0	30	0	0	0
SEPT.								
01-30	0	30	0	0	30	0	0	0

3-1107. OHIO RIVER AT STRATTON, OHIO--Continued

EXTREMES, 1961-69.--Specific conductance (1961-67): Maximum daily, 844 micromhos Oct. 7, 1966; minimum daily, 150 micromhos Mar. 8, 1964.
Water temperatures (1961-67): Maximum, 31°C on several days during July 1966; minimum, freezing point on several days during winter period in 1962 and 1963.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
01...	10	.13	--	184	--	575	7.2
19...	5.7	.54	330	166	137	540	7.6
29...	6.9	.17	--	160	--	489	6.6
NOV.							
12...	5.3	.17	278	142	122	449	6.9
15...	8.3	.04	--	182	--	581	6.7
29...	4.5	.07	--	96	--	280	7.4
DEC.							
06...	4.2	.14	154	90	70	267	7.5
23...	5.4	.04	--	116	--	342	7.4
31...	4.0	.03	--	74	--	224	6.8
JAN.							
02...	3.6	.06	--	74	--	221	7.3
09...	4.9	.09	150	86	68	259	7.0
20...	6.6	.10	--	118	--	359	7.1
FEB.							
03...	2.2	.03	--	69	--	210	6.6
20...	2.8	.13	196	102	88	297	6.6
28...	3.3	.04	--	111	--	339	6.7
MAR.							
13...	8.7	.00	222	134	123	410	6.9
24...	11	.00	--	154	--	479	6.1
28...	4.5	.00	--	116	--	343	6.9
APR.							
03...	5.2	.05	--	106	--	302	6.5
09...	3.6	.04	--	72	--	204	7.0
24...	3.6	.06	146	88	72	253	7.0
MAY							
09...	4.4	.15	--	120	--	317	7.0
19...	3.4	.12	168	110	88	280	7.0
23...	2.4	.13	--	102	--	242	7.4
JUNE							
03...	4.2	.08	--	96	--	289	6.8
10...	4.6	.10	201	107	82	328	7.1
24...	7.4	.08	--	146	--	456	6.6
JULY							
01...	7.4	.27	--	158	--	473	6.4
28...	6.4	.14	294	144	121	442	7.1
30...	5.5	.17	--	122	--	382	7.0
AUG.							
05...	7.2	.10	212	121	108	361	6.4
19...	8.1	.05	--	144	--	444	6.6
25...	6.3	.00	--	110	--	320	6.2
SEPT.							
02...	7.0	.10	--	130	--	363	6.8
18...	15	.14	242	142	124	430	6.5
25...	13	.14	--	160	--	490	6.4

3-1107. OHIO RIVER AT STRATTON, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	575	512	--	--	--	--	285	--	--	473	--	--
2.....	568	--	273	221	--	--	297	--	--	465	--	363
3.....	552	--	256	--	210	--	302	--	289	--	--	377
4.....	540	501	--	--	--	362	--	--	294	--	358	393
5.....	--	474	--	--	--	370	--	267	321	--	361	397
6.....	--	478	267	237	--	373	--	--	--	--	358	--
7.....	565	453	--	242	230	--	222	280	--	434	--	--
8.....	557	--	--	254	--	--	213	286	--	413	--	407
9.....	555	--	242	259	--	--	204	317	--	--	--	--
10.....	551	--	239	--	--	390	217	--	328	--	--	418
11.....	547	434	239	--	262	399	213	--	--	--	387	--
12.....	--	449	--	--	262	406	--	293	356	--	--	428
13.....	--	512	261	300	262	410	232	289	--	--	400	--
14.....	547	--	--	--	--	418	--	291	--	--	401	--
15.....	536	581	286	--	--	--	221	293	--	--	--	432
16.....	534	--	--	--	--	--	--	--	364	--	--	430
17.....	534	--	298	321	--	427	228	--	--	--	--	417
18.....	--	371	290	--	--	423	--	--	--	--	--	430
19.....	540	--	--	--	--	428	--	280	--	--	444	440
20.....	--	326	--	359	297	444	276	278	431	--	--	--
21.....	537	--	--	--	--	456	--	289	--	464	403	--
22.....	542	318	--	--	--	--	262	264	--	429	414	461
23.....	543	--	342	--	--	--	276	242	--	--	--	470
24.....	519	--	--	277	307	479	253	--	456	--	--	480
25.....	533	302	--	--	312	462	262	--	--	--	320	490
26.....	537	--	290	--	326	413	--	264	--	--	--	481
27.....	--	--	286	--	336	397	--	262	--	--	339	--
28.....	533	--	--	--	339	343	255	258	--	442	357	--
29.....	489	280	259	--	--	--	--	--	--	--	--	474
30.....	--	--	--	--	--	--	--	--	--	382	--	480
31.....	510	--	224	--	--	--	--	--	--	456	--	--
AVERAGE	--	--	--	--	--	--	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	24	24	24	22	--	--	21	23	23	23	23	--	--	21	19	19	19	--	19	--	19	19	19	18	18	17	--	16	16	--	14	--
NOVEMBER.	14	--	--	14	14	14	14	--	--	--	13	13	13	--	12	--	--	9	--	8	--	7	--	--	7	--	--	--	7	--	--	--
DECEMBER.	--	7	7	--	--	6	--	--	4	3	--	--	3	--	2	--	3	2	--	--	--	--	4	--	--	2	2	--	3	--	3	--
JANUARY..	--	1	--	--	--	1	1	1	1	--	--	--	1	--	--	--	2	--	--	3	--	--	--	4	--	--	--	--	--	--	--	--
FEBRUARY.	--	--	4	--	--	--	4	--	--	--	4	4	4	--	--	--	--	--	--	4	--	--	--	4	5	5	5	5	--	--	--	--
MARCH....	--	--	--	6	6	6	--	--	--	7	6	6	5	5	--	--	7	6	7	8	9	--	--	11	10	--	--	--	--	--	--	--
APRIL....	--	--	--	--	--	--	--	--	11	12	13	--	13	--	14	--	14	--	--	14	--	14	13	13	13	--	--	14	--	--	--	--
MAY.....	--	--	--	--	17	--	16	19	17	--	--	17	16	16	16	--	--	--	18	19	19	20	19	--	--	19	20	21	--	--	--	--
JUNE.....	--	--	23	23	23	--	--	--	--	22	--	24	--	--	--	23	--	--	--	25	--	--	--	26	--	--	--	--	--	--	--	--
JULY.....	29	29	--	--	--	--	27	26	--	--	--	--	--	--	--	--	--	--	--	--	28	29	--	--	--	--	--	29	--	28	29	--
AUGUST...	--	--	--	29	28	29	--	--	--	--	27	--	27	27	--	--	--	--	28	--	27	26	--	--	26	--	26	27	--	--	--	--
SEPTEMBER	--	28	29	28	28	--	--	28	--	27	--	25	--	--	24	27	27	24	24	--	--	24	24	24	24	24	--	--	22	23	--	--

3-1171. TUSCARAWAS RIVER AT NAVARRE, OHIO

LOCATION.--Lat 40°43'36", long 81°31'47", Stark County, on left bank at Navarre water treatment plant, 800 ft upstream from bridge on Elton Road at Navarre, 3.5 miles downstream from gaging station at Massillon, 1.2 miles downstream from Pigeon Run, and just upstream from Wolf Creek.
DRAINAGE AREA.--534 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1968 to September 1969.
Water temperatures: March 1968 to September 1969.
EXTREMES, 1968-69.--pH: Maximum, 8.4 Jan. 16; minimum, 4.6 Aug. 17.
Water temperatures: Maximum, 30°C June 27, 28; minimum, freezing point on several days during December and January.
REMARKS.--Continuous water quality recorder operated since March 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 03-1170.00 Tuscarawas River at Massillon, Ohio (drainage area 518 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)
OCT.												
04...	2200	102	227	0	135	1900	3.3	--	3360	1450	1240	6200
16...	1305	102	156	0	194	2750	3.3	--	5430	2380	2250	8070
NOV.												
05...	1400	92	212	0	138	2050	2.7	--	4320	1500	1330	6660
20...	1205	338	152	0	121	1180	2.0	--	2600	1030	905	4090
DEC.												
26...	1000	277	180	0	113	1400	.4	--	2860	1190	1040	4620
JAN.												
29...	1410	578	142	0	117	1400	1.3	--	2810	1140	1020	4600
30...	1400	1680	110	0	67	900	.5	11	1890	860	770	3080
FEB.												
05...	1430	910	116	0	98	920	.3	20	2100	846	751	3180
25...	1400	255	166	0	124	1340	2.0	--	3040	1060	924	4530
MAR.												
03...	1000	219	154	0	132	1600	1.6	--	3490	1330	1250	5330
27...	1000	596	176	0	103	550	1.1	9.9	1570	570	426	2200
APR.												
04...	1400	518	122	0	110	700	7.6	34	1940	690	590	2690
16...	1400	446	162	0	132	1200	1.1	--	2910	1120	987	4180
MAY												
08...	1200	371	174	0	120	1270	1.7	25	2700	1110	967	4320
16...	0900	382	168	0	105	820	1.6	22	1890	804	666	3050
JUNE												
04...	1255	440	156	0	103	885	1.4	22	2240	810	682	3160
30...	0800	131	120	0	144	1610	3.7	67	3560	1500	1400	5360
JULY												
11...	1000	2760	120	0	67	360	.7	8.9	876	424	325	1430
25...	1000	316	152	0	114	1340	1.0	14	2720	1070	945	4460
AUG.												
01...	1000	221	190	0	118	970	1.3	25	2410	920	764	3810
09...	1400	172	150	0	144	1840	1.2	43	3520	1310	1190	5840
SEPT.												
03...	0900	144	182	0	126	1560	1.4	14	3150	1420	1270	5160
30...	1000	129	162	0	130	2060	1.0	9.7	3830	1770	1640	6420

3-1171. TUSCARAWAS RIVER AT NAVARRE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7080	4520	9480	7290	3900	2600	3280	2880	3200	2940	---	---
2	7580	6910	9000	6750	4440	3560	3580	3240	---	---	---	---
3	7050	5300	7320	6750	4140	3080	3500	2740	---	---	---	---
4	6600	5480	7440	6030	4160	2100	3380	3240	---	---	---	---
5	7710	6470	7080	4500	2100	2020	3480	3260	---	---	---	---
		66										
6	8280	6660	7800	6720	3920	2100	3800	3440	---	---	---	---
7	8620	6540	8040	5670	3800	2820	3640	3500	---	---	---	---
8	8500	6440	6800	6360	4500	2940	4300	3560	---	---	---	---
9	6640	5870	7060	6080	4820	3460	4580	4240	---	---	---	---
10	6410	5380	8100	5860	4760	3980	4620	3220	---	---	---	---
11	9260	5660	7680	5500	5000	3800	3220	3140	---	---	---	---
12	6850	5720	7240	5500	5120	4340	3640	2780	---	---	---	---
13	9880	5960	7960	6480	5160	2380	3880	3640	---	---	---	---
14	6940	5720	7440	6160	4560	2140	3880	3760	---	---	---	---
15	7190	5980	6440	4560	3260	2960	4540	3780	---	---	---	---
16	9300	6550	4760	3400	3080	2960	4620	3640	---	---	---	---
17	9120	7800	---	---	3080	3000	4120	3160	---	---	---	---
18	9120	7650	---	---	6260	3020	4140	2340	---	---	---	---
19	7650	5520	---	---	4480	3840	3300	2960	---	---	---	---
20	5850	4400	---	---	4260	3800	4060	3300	---	---	---	---
21	7280	5760	5160	3560	4120	3720	4340	2940	---	---	---	---
22	7480	6590	4200	3280	4040	3640	4020	3140	---	---	---	---
23	6760	5860	4620	3940	4720	4120	4040	3180	---	---	---	---
24	6320	5600	6580	4300	4500	3600	---	---	---	---	---	---
25	6360	5640	5260	2540	3800	3600	---	---	---	---	---	---
												-
26	6000	5580	4840	4320	4940	3800	---	---	---	---	---	---
27	6750	5820	5900	4440	5180	4400	---	---	---	---	---	---
28	7080	5520	6440	3160	4400	3780	---	---	---	---	---	---
29	8400	5340	6040	1860	4320	3780	5000	2900	---	---	---	---
30	7860	6840	2880	1800	3800	3400	4300	2300	---	---	---	---
31	8160	6540	---	---	3720	2960	4200	2850	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	5600	4400	6870	6030
2	---	---	---	---	---	---	3010	2610	5300	4430	6930	4900
3	---	---	---	---	---	---	4650	3010	6530	5000	7000	2170
4	---	---	---	---	---	---	5340	4560	6500	5400	3070	2700
5	---	---	---	---	---	---	4740	240	10000	5770	4350	3000
6	---	---	---	---	---	---	840	330	7430	4170	5070	4350
7	---	---	---	---	---	---	1050	510	6400	4730	5870	5070
8	---	---	---	---	---	---	1710	1050	5970	4950	5500	4270
9	---	---	---	---	---	---	1680	1320	5850	4350	6000	4330
10	---	---	---	---	---	---	1350	1230	6070	3930	6170	5460
11	---	---	---	---	---	---	1530	1230	5700	4380	6430	5530
12	---	---	---	---	---	---	1950	1320	5220	4500	6500	5810
13	---	---	---	---	---	---	1760	1410	6250	5130	8400	6120
14	---	---	---	---	---	---	2300	1680	6300	4980	9070	6490
15	---	---	---	---	---	---	2830	2270	6630	5170	6620	5570
16	---	---	---	---	---	---	3100	2500	6330	5630	6990	5640
17	---	---	---	---	---	---	3800	2870	6480	5970	7180	5110
18	---	---	---	---	---	---	3800	2300	6330	2880	7790	4280
19	---	---	---	---	---	---	4500	2730	6570	1600	5140	3900
20	---	---	---	---	---	---	3570	2930	3630	1530	6200	4790
21	---	---	---	---	---	---	3970	3100	2850	1730	6990	5430
22	---	---	---	---	---	---	4000	3330	3900	2400	6190	5650
23	---	---	---	---	---	---	4900	1630	9030	3930	6980	6050
24	---	---	---	---	---	---	5200	1530	10700	6100	7500	6570
25	---	---	---	---	---	---	5000	3450	6100	5280	8080	6910
26	---	---	---	---	---	---	4470	3100	6150	5280	7850	6740
27	---	---	---	---	---	---	4050	2170	6600	5280	8100	5640
28	---	---	---	---	---	---	---	---	6530	5930	6700	5590
29	---	---	---	---	---	---	---	---	7270	6330	6980	5150
30	---	---	---	---	---	---	---	---	7600	6130	6840	5790
31	---	---	---	---	---	---	---	---	7130	6270	---	---

3-1171. TUSCARAWAS RIVER AT NAVARRE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.3	6.6	7.5	7.0	7.6	6.5	7.3	7.2	7.7	7.3	7.5	6.5
2	7.2	6.6	7.4	6.8	7.4	6.9	7.3	6.9	7.7	6.9	7.4	7.0
3	7.3	6.8	7.6	6.1	7.3	6.8	7.6	6.9	7.6	7.2	7.1	6.4
4	7.1	6.4	7.7	7.2	7.2	6.9	7.8	6.7	8.1	7.5	7.0	6.5
5	7.5	6.8	7.6	6.6	7.4	7.2	7.6	6.9	7.7	7.3	7.0	6.3
6	7.5	5.9	7.6	6.8	7.4	7.1	7.6	7.2	7.5	6.3	6.9	6.3
7	7.5	7.3	7.5	6.6	7.2	7.0	7.6	7.4	7.4	6.9	6.9	6.1
8	7.5	7.3	7.6	6.6	7.4	6.1	7.6	7.2	7.5	6.2	7.2	6.3
9	7.3	7.0	7.3	6.4	7.3	6.8	7.6	7.2	7.6	6.3	7.1	6.7
10	7.8	7.1	7.5	5.6	7.1	6.9	7.6	6.4	7.5	6.5	7.0	6.5
11	7.4	6.9	7.4	7.2	7.2	6.7	7.3	6.8	7.4	6.5	7.0	6.5
12	7.5	6.1	7.3	7.1	7.3	6.9	7.2	6.6	7.6	6.7	7.8	6.6
13	7.6	6.4	7.2	6.9	7.0	6.6	6.9	6.6	7.4	6.9	7.2	6.5
14	7.6	7.4	7.3	6.7	7.1	6.9	7.1	6.5	7.4	6.9	7.3	6.3
15	7.5	7.2	7.3	6.9	7.2	6.5	7.1	7.0	7.3	6.3	7.6	6.7
16	7.5	6.9	7.4	7.0	7.3	7.0	8.4	7.1	7.5	5.5	8.0	6.7
17	7.5	6.2	7.4	6.9	7.4	7.0	7.4	6.7	7.3	6.4	7.6	6.6
18	7.5	6.8	7.4	7.2	7.3	7.0	7.6	6.6	7.1	6.6	7.0	6.2
19	7.6	6.1	7.5	7.2	7.2	6.6	8.2	6.7	7.0	6.4	7.1	6.5
20	7.8	7.2	7.4	6.9	7.2	6.7	7.8	7.2	7.0	6.0	7.1	6.8
21	7.7	7.4	7.4	7.1	7.2	7.0	7.6	6.8	7.2	6.7	7.1	6.3
22	7.5	7.0	8.1	6.9	7.2	5.6	7.4	7.1	7.0	6.3	7.2	6.8
23	7.6	7.0	7.1	6.7	7.4	7.1	7.4	6.8	7.3	5.5	7.5	6.5
24	7.5	7.1	7.1	5.3	7.3	6.4	7.5	6.8	7.3	6.7	7.3	6.6
25	7.5	7.2	7.4	7.0	7.7	7.3	7.6	6.8	7.1	6.0	7.4	7.2
26	7.6	7.0	7.3	7.1	7.7	7.1	7.8	6.3	6.9	6.3	7.5	6.9
27	7.6	6.4	7.3	6.8	7.3	6.7	7.6	7.1	6.9	6.4	7.6	7.1
28	7.7	7.4	7.1	6.6	7.6	7.2	7.4	6.8	7.1	6.5	7.7	7.4
29	7.7	7.3	7.3	7.0	7.5	7.2	7.6	7.0	---	---	7.6	7.2
30	7.4	7.0	7.4	7.1	7.4	7.3	7.7	7.3	---	---	7.7	7.1
31	7.5	7.1	---	---	7.4	7.2	8.0	7.3	---	---	7.6	7.4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.5	7.3	7.5	7.2	---	----	7.3	7.0	7.5	6.6	7.1	6.6
2	7.5	7.4	7.4	7.3	---	---	7.3	6.9	7.1	6.6	7.2	6.6
3	7.6	7.4	7.4	7.2	---	---	7.2	7.1	7.6	5.3	7.2	6.9
4	7.5	7.2	7.5	6.9	7.4	7.2	7.2	7.0	7.2	6.8	7.1	7.0
5	7.6	7.4	7.5	7.3	7.3	7.0	8.0	7.1	7.1	6.7	7.2	6.9
6	7.7	7.5	7.4	7.2	7.3	7.0	7.9	7.6	7.2	6.5	7.3	7.1
7	7.6	7.5	7.4	7.2	7.3	7.0	7.7	7.4	7.2	6.6	7.2	6.5
8	7.5	7.4	7.4	7.2	7.4	6.5	7.4	7.3	7.1	6.6	7.3	6.8
9	7.5	7.4	7.4	7.3	7.2	6.9	7.3	7.3	7.2	6.7	7.3	6.7
10	7.5	7.3	7.5	7.2	7.2	7.0	7.3	7.2	7.3	6.4	7.2	6.0
11	7.5	7.4	---	---	7.1	7.0	7.2	7.1	7.4	6.8	6.9	6.4
12	7.5	7.3	---	---	7.2	7.0	7.2	7.2	7.3	6.9	7.0	6.3
13	7.6	7.1	---	---	7.2	7.0	7.3	7.1	7.4	6.9	7.2	6.6
14	7.5	7.4	---	---	7.3	7.0	7.3	6.9	7.4	7.1	7.3	5.6
15	7.5	7.4	---	---	7.3	6.7	7.0	6.7	7.3	7.1	7.3	6.4
16	7.6	7.4	---	---	7.2	7.0	7.1	6.8	7.4	6.6	7.2	6.5
17	7.5	7.3	---	---	7.2	7.0	7.0	6.5	7.3	4.6	7.1	6.6
18	7.5	7.3	---	---	7.2	6.9	7.0	6.5	7.0	6.4	7.2	6.6
19	7.5	7.4	---	---	7.2	7.0	7.3	6.7	7.1	6.8	7.1	6.4
20	7.5	7.3	---	---	7.2	7.0	7.2	6.5	7.1	6.9	7.1	6.7
21	7.6	7.5	---	---	7.1	6.9	7.2	6.8	7.0	6.6	7.4	6.1
22	7.6	7.4	---	---	7.3	6.8	7.2	6.6	6.9	6.6	7.5	6.9
23	7.6	7.4	---	---	7.2	6.9	7.2	6.9	6.9	6.6	7.2	6.7
24	7.7	7.4	---	---	7.3	7.0	7.3	7.0	7.0	6.3	7.2	6.8
25	7.6	7.5	---	---	7.2	7.0	7.2	7.0	7.1	6.6	7.2	6.8
26	7.5	7.4	---	---	7.3	7.0	7.2	6.9	6.9	6.7	7.2	6.8
27	7.6	7.0	---	---	7.2	7.0	7.4	6.9	7.1	6.3	7.1	6.4
28	7.5	7.4	---	---	7.2	7.0	7.5	7.4	7.2	6.4	7.0	6.2
29	7.5	7.4	---	---	7.3	6.7	7.5	7.3	7.1	6.5	7.2	6.8
30	7.5	7.3	---	---	7.2	6.8	7.5	7.1	7.2	6.7	7.3	6.7
31	---	---	---	---	---	---	7.5	7.1	7.2	7.1	---	---

3-1171. TUSCARAWAS RIVER AT NAVARRE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	.9	.7	.7	.6	7.4	6.3	8.2	5.1	8.6	8.5	7.0	6.1
2	.9	.7	.6	.5	8.1	6.4	7.9	7.2	8.8	8.4	7.4	6.4
3	.9	.6	.6	.5	7.8	4.5	8.0	6.3	8.8	8.5	6.6	5.6
4	.8	.7	.6	.5	7.3	4.5	8.8	7.6	9.7	8.8	6.7	4.9
5	.9	.7	---	---	7.5	6.3	---	---	10.2	9.7	5.2	4.4
6	.9	.7	---	---	7.8	5.9	---	---	9.8	8.4	4.7	3.7
7	.9	.7	---	---	7.7	7.0	---	---	9.3	8.4	5.0	3.8
8	.9	.7	---	---	7.9	6.8	---	---	9.5	8.4	5.3	4.1
9	.8	.6	---	---	7.6	6.8	---	---	8.6	8.1	5.2	4.4
10	1.0	.7	---	---	7.3	5.4	---	---	8.6	8.3	5.6	4.1
11	.9	.7	---	---	6.7	5.9	---	---	8.8	8.3	8.9	4.7
12	.8	.7	---	---	6.1	4.2	---	---	9.3	8.2	8.2	7.5
13	.9	.7	---	---	5.6	3.2	---	---	9.0	8.5	8.6	7.3
14	.8	.7	---	---	6.0	4.3	---	---	9.3	8.1	8.2	6.8
15	.7	.6	---	---	6.2	5.1	---	---	9.5	9.0	8.4	6.9
16	.7	.6	---	---	6.5	4.8	---	---	9.2	8.7	9.3	7.1
17	.6	.5	----	---	6.3	4.4	---	---	9.1	7.7	7.9	6.1
18	.7	.5	---	---	8.2	4.6	---	---	8.5	7.3	6.6	4.4
19	.6	.5	---	---	7.5	6.2	---	---	8.4	7.9	5.5	4.3
20	.6	.6 .6	6.8	6.4	7.6	6.5	---	---	9.1	7.6	6.2	4.3
21	.7	.6	7.9	6.3	7.7	5.8	---	---	8.1	7.1	5.7	5.4
22	.7	.5	6.3	2.7	8.2	6.3	----	---	8.3	7.3	5.9	5.5
23	.6	.5	5.6	3.7	7.7	7.0	---	---	8.5	6.9	5.8	4.8
24	.6	.5	5.4	2.6	8.2	7.5	---	---	8.7	7.0	5.1	4.6
25	.5		5.6	4.6	8.1	7.1	---	---	8.2	6.2	5.2	4.7
26	.6	.5	5.7	5.0	8.2	6.8	---	---	6.6	5.9	5.5	5.2
27	.7	.5	6.3	4.2	8.1	7.2	---	---	7.5	5.7	10.0	5.4
28	.7	.5	6.0	4.4	8.3	7.7	---	---	6.6	6.1	9.7	7.5
29	.6	.5	6.2	2.9	8.3	7.7	10.6	8.0	---	---	9.1	6.9
30	.7	.6	7.5	5.7	8.6	7.8	8.7	8.2	---	---	9.8	7.8
31	.7	.6	---	---	8.4	8.1	8.6	8.3	---	---	9.9	8.1

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.8	7.3	5.3	3.8	---	---	---	---	1.8	.0	---	---
2	8.0	6.0	3.8	2.8	---	---	3.6	.0	3.3	.3	---	---
3	8.2	5.1	4.2	2.2	---	---	2.7	.6	4.9	.1.	---	---
4	6.2	4.0	3.6	2.2	5.4	4.1	3.0	.2	3.6	1.2	---	---
5	4.0	3.4	3.0	2.1	4.1	3.3	6.3	1.4	4.3	.1	---	---
6	5.8	3.8	2.3	1.0	---	---	6.0	4.4	4.1	.2	---	---
7	6.6	5.8	2.1	.5	---	---	4.4	4.1	3.9	.3	---	---
8	6.3	5.7	1.4	.2	---	---	4.1	3.6	3.6	.8	---	---
9	5.9	5.2	2.7	1.0	---	---	3.6	3.0	1.7	.3	---	---
10	6.2	5.0	3.4	1.0	---	---	3.0	2.0	3.9	.6	4.0	2.4
11	6.0	5.3	---	---	---	---	2.0	1.8	2.8	1.4	3.7	1.1
12	6.0	4.2	---	---	---	---	2.7	2.0	2.6	.1	3.6	1.5
13	5.4	5.0	---	---	---	---	2.8	2.2	2.9	.0	3.4	1.2
14	5.0	3.8	---	---	---	---	2.7	1.9	2.7	.0	4.6	1.8
15	4.1	3.0	---	---	---	---	2.7	1.7	2.2	.0	4.2	2.0
16	4.9	3.0	---	---	---	---	2.9	1.8	---	---	2.9	1.1
17	3.2	1.7	---	---	---	---	2.1	1.0	---	---	2.2	1.0
18	1.9	.9	---	---	---	---	1.6	.4	---	---	3.3	2.0
19	4.2	1.8	---	---	---	---	1.5	.6	---	---	3.1	1.9
20	4.9	4.0	---	---	---	---	2.0	.9	---	---	2.6	1.6
21	4.7	3.4	---	---	---	---	1.7	.6	---	---	3.5	2.0
22	8.0	3.0	---	---	---	---	1.5	.7	---	---	2.4	2.2
23	7.9	7.0	---	---	---	---	1.1	.2	---	---	2.2	.6
24	9.8	7.9	---	---	---	---	2.5	.4	---	---	1.0	.1
25	9.1	7.6	---	---	---	---	1.0	.3	---	---	.5	.0
26	8.0	6.0	---	---	---	---	.8	.3	---	---	.3	.0
27	6.0	5.7	---	---	---	---	1.5	.4	---	---	.1	.0
28	5.9	4.1	---	---	---	---	1.4	.3	---	---	1.3	.1
29	6.0	4.2	---	---	---	---	.4	.1	---	---	1.0	.5
30	5.9	4.3	---	---	---	---	.1	.0	---	---	.7	.1
31	---	---	---	---	---	---	.0	.0	---	---	---	---

3-1171. TUSCARAWAS RIVER AT NAVARRE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21	16	15	10	7	6	0	0	3	2	8	6
2	22	18	16	13	8	6	1	0	3	2	9	5
3	22	19	15	14	9	8	3	1	4	3	9	6
4	21	16	15	13	10	8	3	2	3	1	9	5
5	17	14	15	13	8	4	2	2	3	1	9	6
6	15	12	15	14	3	2	3	2	4	2	10	7
7	15	13	14	13	2	1	3	2	6	4	9	7
8	16	13	13	11	3	2	4	1	7	5	9	7
9	17	13	11	9	4	1	5	4	6	4	8	7
10	19	15	9	7	5	2	4	2	5	3	7	4
11	18	14	9	8	3	0	3	2	7	4	7	4
12	18	15	9	7	5	2	4	3	6	5	9	4
13	19	16	8	6	8	5	5	3	6	3	9	6
14	20	15	8	6	7	5	7	4	6	3	9	6
15	20	16	10	6	5	2	8	6	5	3	10	6
16	21	13	11	10	3	1	6	5	6	3	12	7
17	22	18	11	10	4	2	8	6	7	4	13	10
18	20	19	12	11	5	3	7	3	9	5	15	12
19	20	18	11	8	7	5	3	1	8	6	17	14
20	18	16	8	6	6	5	2	0	9	5	17	12
21	16	13	6	5	5	4	5	2	10	6	12	9
22	16	13	8	5	6	5	7	5	10	6	14	9
23	15	12	10	6	6	2	8	1	10	8	14	9
24	14	12	10	9	2	1	8	6	10	9	13	11
25	13	12	10	9	1	0	6	2	9	7	11	8
26	12	10	9	7	1	0	2	1	7	6	8	6
27	12	9	10	9	3	1	4	0	8	5	9	6
28	12	10	11	10	4	2	3	2	8	5	10	6
29	11	9	11	9	3	1	6	3	---	---	9	8
30	12	9	9	7	1	1	5	4	---	---	8	5
31	12	9	---	---	2	0	6	3	---	---	8	4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7	5	17	13	---	---	27	24	26	22	26	23
2	9	7	19	14	---	---	26	22	25	23	25	23
3	11	8	22	17	---	---	27	22	25	22	23	22
4	14	9	23	19	19	18	25	23	24	22	24	22
5	15	11	24	20	20	18	23	20	25	21	24	22
6	11	8	24	20	22	18	21	20	25	22	25	23
7	11	8	24	21	22	20	21	20	26	22	24	23
8	13	11	23	21	22	20	21	20	26	23	24	22
9	16	13	21	17	22	18	22	21	24	21	22	20
10	17	15	17	15	24	18	24	22	24	20	21	18
11	16	14	---	---	24	21	25	24	24	20	20	17
12	16	12	---	---	26	22	25	23	25	21	21	16
13	16	12	---	---	26	23	24	23	25	22	22	17
14	17	15	---	---	25	23	25	23	26	22	22	18
15	17	16	---	---	24	20	26	23	27	23	22	18
16	20	16	---	---	23	20	27	24	25	22	21	19
17	23	18	---	---	26	21	27	25	25	23	21	15
18	22	18	---	---	22	21	27	25	26	22	21	18
19	18	10	---	---	23	20	28	25	25	23	19	15
20	11	8	---	---	21	20	25	24	25	22	18	17
21	13	10	---	---	23	18	26	23	24	20	20	15
22	13	12	---	---	22	18	25	24	24	20	21	17
23	13	11	---	---	22	20	26	23	24	20	20	18
24	12	9	---	---	24	21	25	21	25	21	21	20
25	15	10	---	---	26	21	27	23	26	22	21	20
26	18	14	---	---	28	23	25	23	26	22	23	19
27	21	16	---	---	30	25	24	23	25	19	22	20
28	20	19	---	---	30	26	25	23	25	20	22	20
29	18	13	---	---	29	24	23	22	25	21	24	20
30	15	12	---	---	28	24	24	21	26	22	26	22
31	---	---	---	---	---	---	25	21	26	23	---	---

3-1315. BLACK FORK AT LOUDONVILLE, OHIO

LOCATION.--Lat 40°38'09", long 82°14'22", in NW 1/4 sec.1, T.19 N., R.16 W., Ashland County, on right bank at the Loudonville water treatment plant, just downstream from the gaging station and bridge on State Highway 3 at Loudonville, 1.5 miles downstream from Big Run.
DRAINAGE AREA.--349 sq mi.
PERIOD OF RECORD.--Chemical analyses: April 1968 to September 1969.
Water temperatures: April 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since April 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMCIAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
12...	0800	106	248	0	82	28	.3	6.9	376	245	42	576
19...	1100	101	172	0	208	45	.3	8.7	556	340	199	813
NOV.												
07...	1600	104	140	0	268	46	.4	17	610	380	265	907
29...	1600	466	260	0	51	15	.1	2.2	326	270	56	538
DEC.												
10...	1300	306	232	0	66	21	.1	4.5	330	290	100	556
20...	0900	306	164	0	96	79	.3	12	452	250	116	737
JAN.												
24...	1600	791	160	0	61	27	.2	2.1	306	198	67	462
29...	1015	682	130	0	73	142	.1	12	536	204	98	847
FEB.												
05...	1030	1300	100	0	59	22	.1	12	262	164	82	375
22...	1800	222	136	0	146	33	.2	10	450	270	158	632
MAR.												
04...	1300	256	164	0	98	26	.2	2.9	336	240	106	563
27...	1400	256	168	0	76	110	.2	16	470	234	96	802
APR.												
01...	1300	376	176	0	92	32	.4	3.2	352	247	103	579
29...	1440	1210	112	0	56	16	.2	8.4	240	156	64	371
MAY												
08...	0830	791	160	0	88	32	.3	9.9	342	226	95	559
19...	0700	2680	88	0	23	6.0	.2	4.3	136	95	23	191
JUNE												
01...	1000	1140	136	0	48	12	.2	7.1	252	134	22	359
28...	1100	188	206	0	77	24	.2	6.9	360	238	69	519
JULY												
02...	1300	162	198	0	64	22	.3	6.6	306	224	62	503
14...	1030	1380	92	0	34	9.3	.3	8.8	174	108	32	259
AUG.												
02...	1600	292	188	0	65	18	.4	7.1	272	206	52	455
30...	0700	140	222	0	88	24	.4	6.4	310	240	58	549
SEPT.												
13...	1400	131	222	0	66	27	.4	6.0	342	250	68	577
19...	1300	175	204	0	61	23	.5	4.8	304	234	67	523

3-1315. BLACK FORK AT LOUDONVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	600	570
2	---	---	---	---	---	---	---	---	---	---	600	580
3	---	---	---	---	---	---	---	---	---	---	620	570
4	---	---	---	---	---	---	---	---	---	---	570	550
5	---	---	---	---	---	---	---	---	400	380	600	560
6	---	---	---	---	---	---	---	---	430	400	590	570
7	---	---	---	---	---	---	---	---	460	400	600	570
8	---	---	---	---	---	---	---	---	480	450	610	560
9	---	---	---	---	---	---	---	---	560	470	620	570
10	---	---	---	---	---	---	---	---	540	480	610	570
11	---	---	---	---	---	---	---	---	540	500	680	580
12	---	---	---	---	---	---	---	---	580	530	670	590
13	---	---	---	---	---	---	---	---	610	530	780	640
14	---	---	---	---	---	---	---	---	610	550	690	630
15	---	---	---	---	---	---	---	---	670	590	650	580
16	---	---	---	---	---	---	580	560	600	540	590	570
17	---	---	---	---	---	---	620	530	670	540	590	550
18	---	---	---	---	610	580	620	410	680	540	580	550
19	---	---	---	---	760	580	---	---	640	560	590	550
20	---	---	---	---	760	600	---	---	630	560	590	550
21	---	---	---	---	600	590	620	---	630	560	600	520
22	---	---	---	---	590	560	620	---	650	580	620	580
23	---	---	---	---	680	550	620	---	660	570	590	560
24	---	---	---	---	590	570	620	---	650	580	600	540
25	---	---	---	---	620	580	620	---	600	570	660	600
26	---	---	---	---	610	590	620	---	590	560	610	580
27	---	---	---	---	720	360	620	---	750	580	870	580
28	---	---	---	---	---	---	620	---	660	590	700	610
29	---	---	---	---	---	---	880	---	---	---	820	580
30	---	---	---	---	---	---	490	---	---	---	610	550
31	---	---	---	---	---	---	440	---	---	---	620	540

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	610	540	---	---	---	---	---	---	460	430	---	---
2	620	550	---	---	---	---	560	540	470	420	---	---
3	610	520	---	---	---	---	590	550	---	---	---	---
4	600	520	---	---	---	---	620	570	---	---	---	---
5	580	370	---	---	450	370	---	---	---	---	---	---
6	500	290	---	---	430	400	---	---	500	490	---	---
7	530	440	---	---	---	---	---	---	530	500	---	---
8	510	410	---	---	---	---	---	---	530	510	---	---
9	500	400	---	---	460	370	560	470	530	510	---	---
10	480	410	---	---	440	380	610	530	630	370	560	520
11	490	320	---	---	540	440	---	---	430	330	550	520
12	500	410	---	---	520	470	---	---	480	390	580	540
13	530	410	---	---	580	480	---	---	540	400	580	560
14	570	410	---	---	550	450	260	250	560	530	590	540
15	---	---	---	---	510	460	270	260	560	540	610	580
16	---	---	---	---	550	500	280	260	570	550	630	580
17	---	---	---	---	510	480	280	270	580	470	760	530
18	---	---	---	---	500	460	300	280	520	260	630	510
19	---	---	---	---	520	480	290	280	400	240	---	---
20	---	---	---	---	---	---	370	290	430	320	---	---
21	---	---	---	---	---	---	400	290	490	430	---	---
22	---	---	---	---	---	---	350	310	530	490	540	520
23	---	---	---	---	---	---	320	310	550	510	530	520
24	---	---	---	---	---	---	320	310	530	490	530	520
25	---	---	---	---	---	---	330	310	530	590	580	520
26	---	---	---	---	---	---	330	310	540	510	610	490
27	---	---	---	---	500	470	330	320	580	540	560	520
28	---	---	---	---	520	490	380	330	580	550	560	520
29	---	---	---	---	520	490	410	340	580	560	560	530
30	---	---	---	---	---	---	430	390	560	550	560	520
31	---	---	---	---	---	---	460	410	---	---	---	---

3-1315. BLACK FORK AT LOUDONVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	7.9	7.7	---	---	---	---	---	---
6	---	---	---	---	7.8	7.7	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	7.8	7.6	---	---	---	---	---	---
10	---	---	---	---	8.0	7.8	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-1315. BLACK FORK AT LOUDONVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	5.3	---	---	---	---	---	---	---
11	---	---	---	---	7.2	5.3	---	---	---	---	---	---
12	---	---	---	---	7.8	7.2	---	---	---	---	---	---
13	---	---	---	---	10.2	6.7	---	---	---	---	---	---
14	---	---	---	---	11.4	8.4	---	---	---	---	---	---
15	---	---	---	---	8.6	8.1	---	---	---	---	---	---
16	---	---	---	---	8.6	7.9	---	---	---	---	---	---
17	---	---	---	---	8.7	8.3	---	---	---	---	---	---
18	---	---	---	---	11.4	7.4	---	---	---	---	---	---
19	---	---	---	---	7.4	3.7	---	---	---	---	---	---
20	---	---	---	9.2	4.4	3.1	---	---	---	---	---	---
21	---	---	12.9	10.5	4.2	3.4	---	---	---	---	---	---
22	---	---	12.0	11.0	3.4	3.1	---	---	---	---	---	---
23	---	---	11.1	6.0	3.7	3.0	---	---	---	---	---	---
24	---	---	9.4	6.0	3.0	2.9	---	---	---	---	---	---
25	---	---	8.3	6.3	3.0	2.8	---	---	---	---	---	---
26	---	---	8.4	5.4	3.2	3.0	---	---	---	---	---	---
27	---	---	5.8	3.9	4.5	3.1	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-1315. BLACK FORK AT LOUDONVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	13.0	12.0	8.0	---	---	---	---	---	---	5.0	3.0
2	17.0	15.0	13.0	11.0	---	---	---	---	---	---	6.0	4.0
3	17.0	16.0	12.0	11.0	---	---	---	---	---	---	5.0	2.0
4	16.0	13.0	12.0	10.0	---	---	---	---	---	---	5.0	3.0
5	13.0	11.0	12.0	11.0	---	---	---	---	3.0	2.0	5.0	2.0
6	12.0	11.0	12.0	11.0	---	---	---	---	3.0	1.0	5.0	4.0
7	13.0	11.0	11.0	11.0	---	---	---	---	5.0	3.0	6.0	4.0
8	14.0	12.0	11.0	9.0	---	---	---	---	4.0	3.0	5.0	4.0
9	14.0	12.0	9.0	8.0	---	---	---	---	4.0	2.0	5.0	4.0
10	15.0	14.0	8.0	6.0	---	3.0	---	---	3.0	1.0	4.0	3.0
11	14.0	13.0	7.0	6.0	3.0	2.0	---	---	4.0	2.0	3.0	1.0
12	14.0	13.0	7.0	7.0	5.0	3.0	---	---	3.0	2.0	4.0	1.0
13	15.0	14.0	7.0	6.0	6.0	5.0	---	---	3.0	2.0	5.0	2.0
14	16.0	14.0	7.0	6.0	6.0	4.0	---	---	3.0	2.0	8.0	4.0
15	17.0	15.0	8.0	6.0	4.0	2.0	---	---	3.0	2.0	5.0	3.0
16	17.0	15.0	11.0	8.0	2.0	2.0	3.0	1.0	5.0	2.0	9.0	4.0
17	18.0	16.0	11.0	10.0	2.0	1.0	3.0	3.0	7.0	4.0	9.0	5.0
18	18.0	17.0	10.0	10.0	3.0	2.0	3.0	2.0	8.0	6.0	10.0	6.0
19	17.0	15.0	10.0	8.0	4.0	3.0	---	---	7.0	5.0	11.0	7.0
20	15.0	13.0	8.0	4.0	4.0	3.0	---	---	7.0	4.0	10.0	8.0
21	13.0	11.0	5.0	4.0	3.0	3.0	---	---	7.0	6.0	9.0	7.0
22	13.0	11.0	6.0	4.0	4.0	3.0	---	---	6.0	3.0	9.0	5.0
23	12.0	11.0	8.0	3.0	5.0	3.0	---	---	6.0	5.0	9.0	6.0
24	12.0	10.0	8.0	7.0	4.0	3.0	---	---	6.0	5.0	9.0	8.0
25	11.0	10.0	7.0	6.0	3.0	3.0	---	---	5.0	4.0	9.0	7.0
26	10.0	9.0	9.0	6.0	4.0	3.0	---	---	4.0	4.0	7.0	6.0
27	10.0	8.0	11.0	9.0	4.0	3.0	---	---	4.0	3.0	9.0	5.0
28	10.0	8.0	---	---	---	---	---	---	4.0	3.0	9.0	5.0
29	9.0	8.0	---	---	---	---	4.0	2.0	---	---	7.0	5.0
30	9.0	7.0	---	---	---	---	5.0	4.0	---	---	8.0	5.0
31	9.0	7.0	---	---	---	---	5.0	3.0	---	---	7.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	---	---	---	---	---	---	24.0	22.0	---	---
2	8.0	6.0	---	---	---	---	23.0	22.0	23.0	20.0	---	---
3	9.0	5.0	---	---	---	---	23.0	19.0	---	---	---	---
4	11.0	8.0	---	---	---	---	23.0	20.0	---	---	---	---
5	12.0	10.0	---	---	19.0	18.0	23.0	19.0	---	---	---	---
6	10.0	9.0	---	---	18.0	17.0	21.0	19.0	23.0	21.0	---	---
7	13.0	10.0	---	---	---	---	19.0	18.0	22.0	19.0	---	---
8	13.0	11.0	---	---	---	---	19.0	17.0	22.0	20.0	---	---
9	14.0	12.0	---	---	20.0	18.0	19.0	16.0	21.0	18.0	---	---
10	14.0	12.0	---	---	19.0	16.0	22.0	19.0	21.0	17.0	17.0	16.0
11	14.0	12.0	---	---	21.0	18.0	26.0	20.0	21.0	17.0	17.0	14.0
12	15.0	13.0	---	---	21.0	19.0	28.0	21.0	21.0	17.0	18.0	14.0
13	16.0	13.0	---	---	23.0	19.0	24.0	19.0	22.0	18.0	18.0	15.0
14	15.0	13.0	---	---	22.0	21.0	26.0	20.0	22.0	18.0	19.0	16.0
15	---	---	---	---	21.0	16.0	24.0	22.0	22.0	19.0	19.0	16.0
16	---	---	---	---	16.0	14.0	24.0	22.0	22.0	20.0	19.0	17.0
17	---	---	---	---	19.0	15.0	25.0	23.0	20.0	18.0	19.0	17.0
18	---	---	---	---	20.0	16.0	26.0	23.0	21.0	19.0	19.0	16.0
19	---	---	---	---	18.0	17.0	26.0	23.0	22.0	20.0	---	---
20	---	---	---	---	20.0	16.0	25.0	23.0	22.0	20.0	---	---
21	---	---	---	---	18.0	16.0	25.0	22.0	21.0	17.0	---	---
22	---	---	---	---	20.0	15.0	25.0	23.0	21.0	17.0	19.0	16.0
23	---	---	---	---	19.0	16.0	26.0	24.0	22.0	17.0	18.0	16.0
24	---	---	---	---	20.0	17.0	25.0	24.0	22.0	18.0	18.0	16.0
25	---	---	---	---	20.0	18.0	26.0	23.0	22.0	19.0	18.0	16.0
26	---	---	---	---	21.0	19.0	26.0	24.0	22.0	19.0	16.0	15.0
27	---	---	---	---	23.0	21.0	26.0	24.0	21.0	18.0	17.0	14.0
28	---	---	---	---	25.0	22.0	25.0	23.0	21.0	17.0	16.0	14.0
29	---	---	---	---	26.0	22.0	24.0	22.0	21.0	17.0	15.0	13.0
30	---	---	---	---	---	---	24.0	21.0	21.0	18.0	15.0	12.0
31	---	---	---	---	---	---	25.0	21.0	---	---	---	---

3-1390. KILLBUCK CREEK AT KILLBUCK, OHIO

LOCATION.--Lat 40°29'41", long 81°59'12", in SW1/4 sec.6, T.8 N., R.7 W., Holmes County, at gaging station at bridge on County Road 2B at Killbuck, 0.1 mile downstream from Black Creek, and 0.9 mile upstream from bridge on U.S. Highway 62.
DRAINAGE AREA.--462 sq mi.
RECORDS AVAILABLE.--Chemical analyses: October 1957 to September 1958.
Water temperatures: October 1962 to September 1969.
Sediment records: October 1962 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 29°C July 29; minimum, freezing point on several days during December to February.
Sediment concentrations: Maximum daily, 2,500 mg/l July 5; minimum daily, 2 mg/l Nov. 11, 12, Mar. 13, 14.
Sediment loads: Maximum daily, 121,000 tons July 5; minimum daily, 0.52 ton Nov. 11.
EXTREMES, 1962-69.--Water temperatures: Maximum, 29°C July 29, 1969; minimum, freezing point on many days during winter period, 1962-64, 1968-69.
Sediment concentrations: Maximum daily, 2,500 mg/l July 5, 1969; minimum daily, 1 mg/l Dec. 14, 15, 17, 1962, Jan. 15, 1964.
Sediment loads: Maximum daily, 121,000 tons July 5, 1969; minimum daily, 0.15 ton Jan. 15, 1964.
REMARKS.--Chemical analyses for this station on page 355. Daily sediment loads computed by subdivision on Nov. 16, 29, Dec. 4, 27, 28, Jan. 18, 29, 30, Mar. 24, Apr. 5, May 8, 19, June 23, July 1, 19, Aug. 18, 19. Flow affected by ice Dec. 17, 18, Jan. 5-15.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 1700 AND 1800)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	16	17	16	14	14	13	13	14	15	15	14	14	15	15	16	17	18	18	16	16	13	13	12	11	11	10	9	8	9	9	12	14
NOVEMBER.	13	14	13	11	11	10	10	10	8	7	7	6	6	5	7	8	--	7	6	4	3	5	7	7	6	6	6	6	7	6	--	8
DECEMBER.	6	6	6	6	4	4	5	2	0	0	1	1	5	4	2	1	0	0	3	2	4	4	3	3	--	--	--	9	8	3	3	3
JANUARY..	0	0	1	1	1	1	1	1	0	0	0	0	0	1	2	3	4	3	2	3	3	6	5	5	3	2	1	2	4	5	4	2
FEBRUARY.	4	4	4	4	2	2	3	3	4	2	3	4	3	0	1	1	1	3	4	4	4	5	4	5	5	5	4	4	--	--	--	3
MARCH....	4	4	5	5	5	5	5	6	5	4	3	3	4	4	5	5	8	8	11	11	9	8	9	8	7	7	6	7	7	8	8	6
APRIL....	6	8	9	8	10	9	12	13	13	14	14	14	13	14	14	16	16	15	10	10	11	11	9	11	12	13	14	16	13	--	--	12
MAY.....	13	16	17	18	18	--	--	18	16	14	--	13	14	16	17	18	20	18	17	18	18	17	17	17	17	17	16	17	19	20	20	17
JUNE.....	22	18	17	16	17	19	20	19	19	20	20	21	22	22	20	18	19	18	19	19	19	19	19	20	20	23	23	25	25	25	--	20
JULY.....	23	24	24	24	--	--	--	--	--	23	--	26	--	--	25	20	25	26	25	26	24	25	25	25	24	23	23	22	29	20	20	--
AUGUST...	22	22	22	22	21	21	20	--	19	20	19	19	21	22	23	21	21	22	20	21	20	19	18	20	21	19	19	20	22	22	20	21
SEPTEMBER	20	20	20	19	19	22	20	21	19	17	18	17	17	17	20	20	19	17	15	16	17	16	16	16	15	15	15	15	14	15	--	18

MAXIMUM VALUE = 29 MINIMUM VALUE = 0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	49	40	5.3	90	14	3.4	320	74	64
2	49	83	11	91	15	3.7	250	49	33
3	59	82	13	90	12	2.9	240	33	21
4	62	45	7.5	90	8	1.9	347	50	52
5	56	48	7.3	91	5	1.2	568	125	192
6	54	17	2.5	98	7	1.9	510	76	105
7	61	55	9.1	117	16	5.1	381	34	35
8	64	50	8.6	115	13	4.0	246	17	11
9	60	50	8.1	110	4	1.2	184	14	7.0
10	60	65	11	102	3	.83	167	23	10
11	63	59	10	97	2	.52	187	13	6.6
12	61	35	5.8	101	2	.55	150	10	4.1
13	61	25	4.1	116	8	2.5	129	11	3.8
14	59	37	5.9	112	4	1.2	147	13	5.2
15	60	38	6.2	118	5	1.6	151	13	5.3
16	61	32	5.3	239	91	62	133	8	2.9
17	63	41	7.0	332	84	75	130	8	2.8
18	68	46	8.4	244	60	40	120	24	7.8
19	106	63	18	184	33	16	120	17	5.5
20	110	42	12	147	13	5.2	192	10	5.2
21	87	21	4.9	117	28	8.8	247	15	10
22	83	21	4.7	101	15	4.1	210	9	5.1
23	88	37	8.8	89	4	.96	362	12	12
24	88	37	8.8	92	8	2.0	449	8	9.7
25	87	37	8.7	127	12	4.1	410	8	8.9
26	89	22	5.3	131	15	5.3	364	15	15
27	88	12	2.9	110	20	5.9	512	74	135
28	87	22	5.2	137	17	6.3	1630	564	2530
29	88	27	6.4	496	178	251	2050	179	991
30	88	31	7.4	466	115	145	1690	174	794
31	89	18	4.3	--	--	--	1640	144	638
TOTAL	2248	--	233.5	4550	--	664.16	14236	--	5727.9

3-1390. KILLBUCK CREEK AT KILLBUCK, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	1620	60	262	1990	133	715	228	7	4.3
2	1470	41	163	1770	116	554	209	7	4.0
3	1090	32	94	1650	94	419	197	7	3.7
4	696	21	39	1450	62	243	196	7	3.7
5	470	13	16	1240	48	161	188	8	4.1
6	400	16	17	970	33	86	189	8	4.1
7	320	12	10	731	24	47	191	9	4.6
8	270	18	13	606	35	57	179	8	3.9
9	230	20	12	906	65	159	176	5	2.4
10	210	25	14	742	27	54	166	4	1.8
11	200	12	6.5	621	20	34	158	5	2.1
12	190	12	6.2	552	20	30	149	4	1.6
13	180	17	8.3	459	28	35	157	2	.85
14	170	20	9.2	381	22	23	151	2	.82
15	160	18	7.8	309	20	17	146	3	1.2
16	153	27	11	305	15	12	144	5	1.9
17	161	26	11	284	10	7.7	139	11	4.1
18	796	327	800	266	11	7.9	141	12	4.6
19	1030	140	389	245	11	7.3	146	12	4.7
20	808	72	157	239	8	5.2	151	13	5.3
21	693	41	77	233	10	6.3	181	10	4.9
22	603	36	59	238	12	7.7	191	13	6.7
23	558	26	39	251	17	12	175	12	5.7
24	627	47	80	262	22	16	190	25	14
25	610	20	33	251	15	10	358	54	52
26	442	23	27	252	7	4.8	441	25	30
27	340	30	28	245	7	4.6	434	17	20
28	308	30	25	229	7	4.3	372	13	13
29	533	91	141	--	--	--	344	14	13
30	1650	565	2580	--	--	--	381	13	13
31	2390	173	1120	--	--	--	340	12	11
TOTAL	19378	--	6255.0	17677	--	2739.8	6808	--	247.07

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	291	7	5.5	515	281	391	257	122	85
2	305	6	4.9	437	92	109	291	144	113
3	445	18	22	371	63	63	442	108	129
4	451	23	28	315	50	43	369	98	98
5	622	416	960	271	68	50	308	160	133
6	1320	574	2050	247	103	69	285	128	98
7	1320	212	756	228	92	57	247	97	65
8	1310	149	527	319	150	136	232	97	61
9	1260	105	357	724	430	841	247	103	69
10	1080	98	286	785	178	377	199	105	56
11	910	138	339	1080	224	653	184	93	46
12	733	132	261	1140	156	480	170	103	47
13	611	55	91	1070	118	341	222	152	91
14	510	53	73	942	136	346	276	139	104
15	452	75	92	734	146	289	259	137	96
16	424	73	84	574	112	174	276	139	104
17	378	69	70	456	115	142	240	128	83
18	388	92	96	455	112	138	196	131	69
19	715	182	351	754	575	1440	176	125	59
20	812	127	278	1170	634	2000	157	117	50
21	842	137	311	1290	305	1060	144	122	47
22	928	131	328	1510	285	1160	133	117	42
23	922	98	244	1730	140	654	277	279	229
24	866	72	168	1710	152	702	269	184	134
25	799	78	168	1440	96	373	242	127	83
26	760	100	205	1080	72	210	194	104	54
27	688	73	136	725	97	190	157	96	41
28	597	61	98	531	98	141	131	115	41
29	611	302	498	432	119	139	112	119	36
30	584	366	577	362	138	135	102	91	25
31	--	--	--	302	133	108	--	--	--
TOTAL	21934	--	9464.4	23699	--	13011	6794	--	2388

GPO 822-622 - 5

3-1390. KILLBUCK CREEK AT KILLBUCK, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	333	1030	950	378	122	125	135	61	22
2	371	805	806	329	96	85	133	44	16
3	214	620	358	287	83	64	208	112	63
4	153	460	190	283	82	63	145	100	39
5	17900	2500	121000	247	78	52	134	78	28
6	37200	930	93400	235	66	42	151	62	25
7	20200	610	33300	217	93	54	183	48	24
8	10600	417	11900	208	106	60	150	48	19
9	6130	242	4010	222	103	62	135	43	16
10	4370	97	1140	400	95	103	123	31	10
11	3420	68	628	260	96	67	118	38	12
12	3060	65	537	215	101	59	115	49	15
13	2340	74	468	196	88	47	108	48	14
14	1850	77	385	183	83	41	99	46	12
15	1570	70	297	173	79	37	93	47	12
16	1220	66	217	166	75	34	90	47	11
17	942	99	252	163	115	51	109	37	11
18	734	72	143	294	236	215	248	72	48
19	796	893	2450	879	1820	4140	162	53	23
20	1500	946	3830	1380	460	1710	126	60	20
21	1420	183	702	900	183	445	114	55	17
22	1310	95	336	467	159	200	105	44	12
23	976	120	316	322	175	152	99	48	13
24	672	125	227	250	158	107	102	60	17
25	554	128	191	207	132	74	123	77	26
26	449	127	154	184	82	41	110	65	19
27	486	202	265	176	78	37	106	62	18
28	675	188	343	168	78	35	110	59	18
29	491	139	184	160	60	26	104	39	11
30	414	119	133	155	55	23	98	37	9.8
31	411	160	178	143	48	19	--	--	--
TOTAL	122761	--	279290	9846	--	8270	3836	--	600.8
TOTAL DISCHARGE FOR YEAR (CFS-DAYS)									253767
TOTAL LOAD FOR YEAR (TONS)									328891.63

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
DEC 28, 1968	1200	9.0	1600	691	2990	44	57	75	89	95	97	100	--	--	--	--	SBWC
JAN 30, 1969	1000	4.0	1460	931	3670	37	50	64	80	91	97	100	--	--	--	--	SBWC
MAY 19.....	1700	17.0	895	972	2350	33	43	54	65	80	88	99	100	--	--	--	SBWC
JUL 1.....	1200	22.0	347	2260	2120	50	69	84	96	98	99	100	--	--	--	--	SBWC

3-1445. MUSKINGUM RIVER AT DRESDEN, OHIO

LOCATION.--Lat 40°07'13", long 81°59'59", Muskingum County, at gaging station at bridge on State Highway 208, 0.5 mile east of Dresden, and 0.5 mile downstream from Wakatomika Creek.
DRAINAGE AREA.--5,993 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1952 to September 1961; October 1961 to September 1963, unpublished; October 1963 to September 1969.
Sediment records: October 1952 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 26°C June 28, July 1; minimum, freezing point on several days during December and January.
Sediment concentrations: Maximum daily, 1,140 mg/l July 6; minimum daily, 6 mg/l Oct. 29, 31, Mar. 15.
Sediment loads: Maximum daily, 72,300 tons July 6; minimum daily, 16 tons Oct. 15.
EXTREMES, 1952-69.--Water temperatures (1952-60, 1964-69): Maximum, 31°C Aug. 4, 1955; minimum, freezing point on many days during 1952-59, 1965, 1967-69.
Sediment concentrations: Maximum daily, 1,600 mg/l Jan. 22, 1959; minimum daily, 1 mg/l on several days during 1952, 1954, 1956, and 1960.
Sediment loads: Maximum daily, 160,000 tons Jan. 22, 1959; minimum daily, 2.7 tons Dec. 17, 1960.
REMARKS.--Chemical analyses for this station on page 356 . Daily sediment loads were computed by subdivision on Nov. 17, 29, Dec. 28, Jan. 18, 30, Apr. 6, 19, May 9, June 23, July 5, Aug. 20. Flow is regulated by 14 flood-control reservoirs.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 0700 AND 1300)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	19	19	21	18	16	14	14	15	15	17	16	17	16	17	16	19	20	21	--	18	16	14	14	14	14	13	12	12	11	11	10	16
NOVEMBER.	12	13	14	13	14	13	13	12	11	9	9	9	8	7	8	8	8	9	8	6	6	6	7	8	--	7	8	8	8	7	--	9
DECEMBER.	6	4	7	4	5	4	3	2	2	1	1	2	4	2	1	2	2	2	3	3	2	2	3	1	0	0	1	2	2	2	2	2
JANUARY..	--	--	--	--	--	--	0	0	1	0	--	0	1	1	1	1	2	2	1	1	1	3	3	4	2	1	--	1	3	4	4	--
FEBRUARY.	4	3	3	2	2	2	2	2	3	2	3	--	--	2	2	--	2	3	4	4	4	5	5	6	--	5	4	4	--	--	--	3
MARCH....	5	4	5	6	--	5	6	--	6	5	--	4	4	--	5	5	6	7	8	9	8	--	9	--	9	--	6	6	--	--	5	--
APRIL....	6	7	7	9	11	9	9	10	11	13	12	13	13	13	13	14	16	17	14	11	10	11	10	9	10	12	13	14	14	12	--	11
MAY.....	12	13	15	17	17	18	20	21	18	16	14	12	12	13	14	16	18	18	--	18	18	17	17	17	17	16	16	16	19	21	20	17
JUNE.....	22	22	19	17	18	18	19	20	--	21	22	23	24	24	22	--	19	18	21	22	21	22	--	21	21	22	24	26	25	--	--	21
JULY.....	26	25	24	25	24	21	19	19	19	20	21	21	21	21	21	22	23	23	23	--	--	22	22	22	22	22	23	--	22	22	22	22
AUGUST...	22	23	22	--	23	23	23	23	22	21	--	21	22	22	24	24	24	--	25	22	21	21	21	22	--	23	23	22	23	24	24	23
SEPTEMBER	24	--	25	24	24	24	25	24	22	20	19	18	19	20	--	21	22	20	18	23	19	19	20	20	20	18	18	17	16	17	--	21

MAXIMUM VALUE = 26 MINIMUM VALUE = 0

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS)
1	861	21	49	1000	8	22	6290	113	1920
2	840	21	48	960	10	26	5280	48	684
3	960	21	54	1170	12	38	4800	43	557
4	1030	23	64	1380	15	56	4980	41	551
5	993	17	46	1600	16	69	7410	80	1600
6	916	17	42	1710	21	97	8790	102	2420
7	916	23	57	1820	22	108	7790	73	1540
8	960	17	44	1990	21	113	5970	40	645
9	960	16	41	2060	19	106	4860	20	262
10	938	17	43	2220	17	102	4120	12	133
11	927	15	38	2220	14	84	3480	10	94
12	927	12	30	2190	16	95	3160	11	94
13	916	10	25	2160	13	76	3010	10	81
14	861	8	19	2300	12	75	2860	8	62
15	829	7	16	2470	17	113	2860	10	77
16	808	8	17	2740	28	207	2720	10	73
17	776	8	17	3960	115	1320	2410	7	46
18	787	10	21	5120	222	3070	2380	7	45
19	938	10	25	5160	112	1560	2450	9	60
20	1260	16	54	4780	53	684	2740	8	59
21	1550	22	92	4300	35	406	3190	10	86
22	1600	12	52	3740	24	242	3800	12	123
23	1380	10	37	3360	17	154	3540	26	249
24	1230	12	40	3160	13	111	6080	46	755
25	1150	12	37	3190	21	181	6270	41	694
26	1130	8	24	3360	23	209	4660	26	327
27	1120	8	24	3340	21	189	4300	28	325
28	1080	8	23	3370	26	237	11500	433	15500
29	1070	6	17	4440	55	715	20400	400	22000
30	1050	7	20	6670	160	2880	22700	235	14400
31	1030	6	17	--	--	--	22900	147	9090
TOTAL	31793	--	1133	87940	--	13345	197700	--	74552

3-1445. MUSKINGUM RIVER AT DRESDEN, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	21600	97	5660	24400	216	14200	3530	12	114
2	18700	57	2880	24700	150	10000	3420	10	92
3	14500	45	1760	24600	97	6440	3260	13	114
4	12100	32	1050	22600	74	4520	3240	11	96
5	9310	21	528	20100	61	3310	3040	13	107
6	6900	23	428	17400	48	2260	2900	13	102
7	5610	17	257	14200	35	1340	2880	13	101
8	4800	15	194	12600	37	1260	2890	10	78
9	4280	19	220	12900	70	2440	2770	8	60
10	3910	26	274	12800	68	2350	2660	12	86
11	3460	17	159	11400	50	1540	2700	15	109
12	2980	14	113	11100	48	1440	2520	8	54
13	2940	10	79	9210	35	870	2430	8	52
14	3020	7	57	7990	27	582	2380	7	45
15	2960	8	64	6790	18	330	2330	6	38
16	2780	8	60	5840	18	284	2300	7	43
17	2780	9	68	5210	17	239	2240	7	42
18	4340	95	1410	4910	17	225	2260	11	67
19	10800	243	7090	4680	20	253	2170	9	53
20	12600	159	5410	4680	17	215	2190	10	59
21	12100	95	3100	4420	12	143	2230	10	60
22	10400	63	1770	4060	13	143	2340	10	63
23	9730	50	1310	3860	17	177	2380	12	77
24	9870	45	1200	3800	13	133	2450	14	93
25	9630	45	1170	3820	13	134	3480	49	460
26	8850	43	1030	3830	12	124	5250	72	1020
27	6710	31	562	3750	12	122	6330	80	1370
28	5500	27	401	3700	11	110	6140	66	1090
29	6180	49	818	--	--	--	5540	49	733
30	11500	253	8530	--	--	--	5410	35	511
31	21100	338	19300	--	--	--	5450	29	427
TOTAL	261940	--	66952	289350	--	55184	101110	--	7416

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	4930	23	306	7090	62	1190	5230	54	763
2	4540	23	282	6370	52	894	4800	53	687
3	4740	23	294	5730	44	681	4880	51	672
4	5700	47	723	5280	40	570	5020	58	786
5	5700	56	862	4800	39	505	4660	52	654
6	8770	168	4350	4610	37	461	4150	46	515
7	14100	296	11300	4370	35	413	3690	45	448
8	16000	187	8080	4100	32	354	3300	39	347
9	14200	147	5640	6840	240	4680	3080	43	358
10	11900	131	4210	9850	223	5930	2920	42	331
11	10100	108	2950	12800	174	6010	2640	34	242
12	8890	93	2230	14300	155	5980	2440	27	178
13	7730	76	1590	13800	112	4170	2500	35	236
14	6690	61	1100	12400	97	3250	3020	62	506
15	5880	51	810	10100	85	2320	3460	147	1370
16	5540	44	658	8350	70	1580	3690	75	747
17	5280	40	570	7050	58	1100	3560	49	471
18	5120	41	567	6250	50	844	3180	37	318
19	6710	82	1680	7450	174	3500	2860	34	263
20	10200	230	6330	10600	277	7930	2590	33	231
21	11800	134	4270	12900	213	7420	2380	34	218
22	10900	82	2410	13200	152	5420	2200	32	190
23	10300	88	2450	13100	119	4210	2820	46	389
24	11000	65	1930	12500	105	3540	4830	150	1960
25	11100	62	1860	11800	90	2870	7470	495	9980
26	10400	83	2330	11000	82	2440	8270	250	5580
27	9370	76	1920	9730	93	2440	5990	124	2010
28	8590	64	1480	8130	96	2110	4540	102	1250
29	8110	53	1160	7330	77	1520	3590	85	824
30	7710	59	1230	6200	72	1210	3000	67	543
31	--	--	--	5640	67	1020	--	--	--
TOTAL	262000	--	75572	273670	--	86562	116760	--	33067

3-1445. MUSKINGUM RIVER AT DRESDEN, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	2710	67	490	16300	72	3170	2120	16	92
2	2950	65	518	14400	54	2100	1990	17	91
3	3070	70	580	13500	52	1900	2050	17	94
4	2700	45	328	12600	47	1600	2440	17	112
5	6660	674	25500	12100	41	1340	2430	17	112
6	23500	1140	72300	11500	34	1060	2240	13	79
7	33900	780	71400	9930	47	1260	2340	15	95
8	37700	438	44600	5140	125	1730	2360	17	108
9	33600	330	29900	4300	63	731	2100	20	113
10	24800	234	15700	4730	64	817	1940	20	105
11	21600	195	11400	5140	73	1010	1810	17	83
12	22400	163	9860	4540	46	564	1730	18	84
13	23700	138	8830	3980	35	376	1630	20	88
14	22000	124	7370	3530	29	276	1560	25	105
15	20700	118	6600	3200	23	199	1490	25	101
16	20000	115	6210	2980	20	161	1430	20	77
17	19800	108	5770	2860	20	154	1420	20	77
18	19400	102	5340	3000	26	211	1560	22	93
19	18500	95	4750	3660	39	385	2220	33	198
20	18800	114	5790	7310	257	5460	2020	30	164
21	19300	190	9900	9110	288	7080	1740	23	108
22	17500	103	4870	7630	184	3790	1590	16	69
23	18400	127	6310	5990	112	1810	1500	17	69
24	19400	85	4450	4830	77	1000	1470	19	75
25	19200	78	4040	3780	50	510	1450	27	106
26	18100	64	3130	3260	37	326	1510	32	130
27	17500	83	3920	3010	35	284	1470	35	139
28	18300	227	11200	2740	32	237	1410	34	129
29	17800	120	5770	2540	27	185	1370	33	122
30	17900	101	4880	2380	22	141	1330	27	97
31	15900	77	3310	2240	16	97	--	--	--
TOTAL	577790	--	395016	192210	--	39964	53720	--	3115

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 2445983
TOTAL LOAD FOR YEAR (TONS) 851878

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
DEC 29, 1968	1300	2.0	20600	373	20700	37	50	63	74	83	86	89	92	100	--	--	SBWC
JAN 31, 1969	0730	4.0	20200	381	20800	43	51	63	76	86	92	94	100	--	--	--	SBWC
JUL 6.....	1810	--	26800	1070	77400	62	76	87	94	96	98	99	99	100	--	--	SBWC

3-1465. LICKING RIVER NEAR NEWARK, OHIO

LOCATION.--Lat 40°03'33", long 82°20'23", in SW 1/4 T.2 N., R.11 W., Licking County, at gaging station on right bank at downstream side of Stadden Bridge, 1 mile downstream from Shawnee Run, 1.5 miles upstream from Equality Run, and 3.5 miles east of Newark.
DRAINAGE AREA.--537 sq mi.
PERIOD OF RECORD.--Chemical analyses: July 1968 to September 1969.
Water temperatures: June 1962 to September 1969.
EXTREMES, 1962-69.--Water temperatures (1962-68): Maximum, 29°C Aug. 16, 17, 1965; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since July 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
07...	1600	109	228	0	99	66	.3	16	490	300	113	815
21...	1800	109	240	0	105	126	.4	21	634	315	118	1060
NOV.												
04...	1600	69	220	0	115	139	.7	39	724	325	145	1270
29...	1700	2360	116	0	46	18	.2	12	210	170	75	359
DEC.												
17...	1325	220	248	0	97	55	.3	19	496	310	107	766
23...	1800	2090	124	0	50	16	.2	11	224	170	68	362
JAN.												
09...	1537	272	238	0	91	90	.3	15	508	316	121	854
31...	0930	8530	90	0	29	8.0	.2	10	140	110	36	242
FEB.												
03...	1600	2010	140	0	51	15	.1	13	220	178	64	389
25...	1415	380	226	0	77	41	.2	12	386	272	86	661
MAR.												
14...	1000	156	223	0	92	68	.3	19	500	290	103	804
24...	1600	237	204	0	85	34	1.0	13	388	250	83	627
APR.												
21...	1600	966	150	4	60	17	.3	16	302	208	78	443
29...	1500	434	220	0	71	29	.2	10	374	269	88	583
MAY												
08...	1600	232	216	0	80	50	.4	16	456	282	105	702
12...	1600	1330	146	0	46	15	.3	15	282	201	82	402
JUNE												
02...	1600	263	214	0	88	70	.3	24	464	282	106	724
23...	1600	3160	164	0	28	8.0	.2	4.0	208	171	36	315
JULY												
08...	1330	1960	128	0	33	9.5	.2	12	216	148	43	318
14...	1600	308	245	0	76	42	.3	17	378	294	92	671
AUG.												
18...	1800	2070	140	0	29	8.9	.3	4.6	166	145	30	280
25...	2006	166	216	10	89	95	.6	26	510	294	100	885
SEPT.												
08...	1615	220	204	0	74	33	.5	21	362	249	82	602
22...	1600	109	216	0	103	143	.6	44	640	314	136	1070

3-1465. LICKING RIVER NEAR NEWARK, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	850	730	---	---	---	---	---	---	310	240	820	590
2	820	710	---	---	---	---	---	---	380	310	780	640
3	890	590	---	---	---	---	---	---	440	360	---	---
4	1120	870	---	---	---	---	---	---	540	380	---	---
5	1200	1040	1050	910	---	---	---	---	500	420	1090	730
6	1100	800	1150	940	490	400	---	---	510	450	---	---
7	890	730	1050	930	520	400	---	---	670	460	---	---
8	900	820	1040	790	430	380	---	---	560	410	---	---
9	920	750	930	760	820	410	---	---	530	260	---	---
10	980	830	1020	840	780	570	---	---	800	300	---	---
11	970	870	970	850	670	490	---	---	540	390	---	---
12	1030	920	1080	850	700	530	---	---	470	420	---	---
13	970	840	950	840	720	640	---	---	510	310	---	---
14	940	800	1000	850	780	640	---	---	---	---	980	790
15	1090	850	1010	880	730	620	---	---	---	---	970	710
16	950	860	940	420	740	600	---	---	---	---	---	---
17	1000	830	460	400	810	720	---	---	---	---	---	---
18	980	790	550	440	860	720	---	---	---	---	---	---
19	840	590	530	490	890	760	---	---	---	---	---	---
20	810	770	530	500	780	510	---	---	---	---	---	---
21	920	790	540	500	530	420	---	---	---	---	---	---
22	970	810	560	450	470	430	---	---	---	---	---	---
23	820	730	570	410	500	330	---	---	---	---	---	---
24	830	770	540	420	340	310	---	---	---	---	---	---
25	1030	830	---	---	370	320	---	---	740	520	---	---
26	1000	880	---	---	---	---	---	---	740	670	---	---
27	1020	900	---	---	---	---	---	---	670	570	---	---
28	1050	990	---	---	---	---	---	---	610	590	---	---
29	1040	960	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	240	200	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	730	660	740	680
2	---	---	---	---	---	---	---	---	740	660	740	420
3	550	530	---	---	---	---	---	---	780	710	700	590
4	620	530	840	660	---	---	---	---	850	680	690	600
5	930	450	670	610	---	---	---	---	790	720	720	660
6	450	370	770	590	---	---	---	---	810	670	720	590
7	740	400	900	760	---	---	---	---	770	630	650	580
8	---	---	880	630	---	---	---	---	800	720	660	590
9	580	490	---	---	---	---	460	390	850	560	750	630
10	---	---	430	340	---	---	520	410	730	540	800	700
11	---	---	380	200	---	---	520	450	670	580	850	760
12	---	---	440	340	---	---	570	390	790	660	800	770
13	---	---	480	400	---	---	570	450	940	780	---	---
14	---	---	500	410	---	---	610	520	920	600	---	---
15	---	---	600	500	---	---	620	540	820	500	890	860
16	---	---	620	560	---	---	680	500	770	690	900	790
17	---	---	620	550	---	---	580	500	780	110	910	730
18	690	400	680	530	---	---	750	530	590	100	910	840
19	---	---	620	380	---	---	700	540	620	380	880	780
20	---	---	380	280	---	---	680	250	550	450	860	770
21	---	---	540	320	---	---	380	280	640	550	910	810
22	---	---	660	530	---	---	400	340	720	640	1070	870
23	500	480	690	560	---	---	440	340	760	680	1360	930
24	520	490	730	560	---	---	520	400	850	760	---	---
25	540	490	990	650	---	---	570	460	920	820	1070	950
26	570	510	---	---	---	---	650	570	980	770	1040	880
27	---	---	880	590	---	---	700	490	920	780	920	760
28	---	---	730	560	---	---	490	340	1020	880	980	880
29	---	---	710	580	---	---	560	430	990	840	1020	770
30	---	---	970	590	---	---	610	560	870	810	1110	780
31	---	---	---	---	---	---	680	590	810	720	---	---

3-1465. LICKING RIVER NEAR NEWARK, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.6	7.3	---	---	---	---	---	---	---	---	9.8	7.2
2	7.6	7.4	---	---	---	---	---	---	---	---	9.4	7.3
3	7.5	7.1	---	---	---	---	---	---	---	---	---	---
4	7.2	7.1	---	---	---	---	---	---	---	---	---	---
5	7.4	7.2	9.1	8.1	---	---	---	---	---	---	8.2	7.5
6	7.3	7.2	8.8	8.6	8.4	8.0	---	---	---	---	8.3	7.6
7	7.4	7.3	8.7	8.2	8.4	8.1	---	---	8.0	7.8	8.3	7.8
8	7.5	7.4	8.1	7.8	8.3	8.2	---	---	8.3	8.0	8.5	8.2
9	7.8	7.4	8.0	7.6	8.4	8.1	---	---	8.1	7.8	8.6	8.2
10	7.9	7.5	8.0	7.9	8.4	8.2	---	---	8.2	7.9	8.7	7.0
11	7.9	7.6	7.9	7.8	8.4	8.0	---	---	8.3	8.0	7.4	6.1
12	8.0	7.6	7.8	7.7	8.2	8.0	---	---	8.2	7.8	7.8	5.9
13	7.8	7.6	7.8	7.6	8.2	8.0	---	---	8.2	7.9	8.5	7.2
14	7.8	7.2	7.8	7.6	8.2	8.0	---	---	8.3	8.2	8.5	5.8
15	7.5	7.3	8.5	7.7	8.2	7.9	---	---	8.2	8.2	8.6	5.1
16	7.4	7.2	8.9	8.5	8.2	7.9	---	---	8.2	8.0	8.1	6.4
17	7.6	7.2	9.0	8.7	8.2	8.0	---	---	8.1	8.0	8.5	7.2
18	7.9	7.4	9.0	8.1	8.4	8.2	---	---	8.1	7.9	8.5	7.1
19	8.2	7.4	8.1	7.9	8.7	8.4	---	---	8.0	7.7	8.1	6.4
20	7.6	7.3	7.9	7.8	8.6	8.1	---	---	8.0	7.9	8.0	7.3
21	7.6	7.3	7.9	7.7	8.3	8.1	---	---	7.9	7.6	8.9	7.9
22	7.7	7.4	8.0	7.9	8.4	8.2	---	---	7.9	7.6	9.1	8.6
23	7.7	7.5	---	---	8.7	8.1	---	---	7.8	7.6	9.4	8.7
24	7.9	7.6	---	---	8.1	7.8	---	---	7.9	7.4	9.1	8.4
25	8.2	7.9	---	---	8.0	7.9	---	---	7.6	7.4	8.8	8.4
26	8.3	7.9	---	---	---	---	---	---	7.4	7.0	8.9	8.7
27	8.3	8.0	---	---	---	---	---	---	7.2	7.0	9.0	8.7
28	8.0	7.6	---	---	---	---	---	---	9.3	6.9	9.0	8.8
29	8.0	7.6	---	---	---	---	---	---	---	---	9.0	8.8
30	---	---	---	---	---	---	---	---	---	---	9.1	8.9
31	---	---	---	---	---	---	---	---	---	---	9.0	8.9

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.1	8.8	---	---	8.4	8.3	---	---	8.0	7.6	8.6	8.0
2	9.0	8.1	7.2	6.4	8.4	8.0	---	---	8.0	7.6	9.5	8.4
3	8.9	8.3	7.2	6.8	8.0	7.5	---	---	8.0	7.6	10.0	8.5
4	8.5	7.9	8.1	7.1	8.5	7.3	---	---	8.0	7.7	9.2	8.5
5	8.2	7.6	8.7	7.1	8.1	7.6	---	---	8.0	7.6	8.8	8.3
6	8.2	7.8	8.1	7.3	8.1	7.5	---	---	7.9	7.5	8.8	8.0
7	8.5	7.9	8.0	7.5	8.1	7.6	---	---	7.9	7.5	8.6	7.9
8	9.0	8.0	7.9	7.0	8.3	7.5	---	---	7.9	7.4	8.5	8.2
9	8.2	7.9	7.7	7.0	8.1	7.6	7.9	6.4	8.2	7.4	9.9	8.3
10	8.1	7.5	7.6	6.5	---	---	7.8	6.4	9.5	8.0	10.0	8.8
11	8.3	7.9	---	---	---	---	7.1	6.4	8.8	8.0	9.2	8.4
12	8.2	7.8	7.5	6.5	---	---	7.3	5.7	8.2	7.7	9.9	9.0
13	8.2	7.9	7.9	6.6	---	---	6.2	5.5	8.0	7.5	---	---
14	8.1	7.8	8.3	7.4	---	---	5.9	5.4	8.1	7.6	---	---
15	7.8	6.6	8.4	7.9	---	---	6.0	5.2	8.0	7.8	8.0	7.9
16	7.8	6.4	8.5	7.8	---	---	7.1	5.4	8.0	6.7	7.9	7.5
17	8.3	7.4	8.7	8.4	---	---	8.4	6.7	8.1	7.2	7.8	7.5
18	7.8	6.8	8.5	8.0	---	---	9.5	7.3	8.0	6.9	8.0	7.7
19	---	---	8.0	7.4	---	---	9.4	7.3	7.7	6.9	7.9	7.5
20	---	---	8.3	7.4	---	---	---	9.2	8.4	8.1	7.7	7.4
21	---	---	8.4	7.6	---	---	---	7.6	8.4	8.1	7.6	7.4
22	---	---	8.1	7.5	---	---	8.7	7.6	8.3	8.0	7.6	7.2
23	8.8	8.2	8.1	7.4	---	---	9.3	7.8	8.1	7.9	---	---
24	8.8	7.9	8.3	7.7	---	---	8.1	6.8	8.2	7.9	---	---
25	8.3	7.9	8.1	7.1	---	---	8.0	7.6	8.6	8.2	---	---
26	8.1	6.1	9.2	7.0	---	---	8.0	7.9	8.4	8.2	---	---
27	---	---	8.5	7.4	---	---	8.1	7.8	8.4	8.2	---	---
28	---	---	8.4	7.8	---	---	8.0	7.8	8.9	8.3	---	---
29	---	---	8.3	7.6	---	---	8.1	7.8	8.8	8.4	---	---
30	---	---	8.4	8.1	---	---	8.1	7.8	9.0	8.5	---	---
31	---	---	8.4	8.2	---	---	8.3	7.7	8.8	8.5	---	---

3-1465. LICKING RIVER NEAR NEWARK, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.4	7.3	---	---	---	---	---	---	---	---	9.8	7.2
2	0.6	7.4	---	---	---	---	---	---	---	---	9.4	7.3
3	1.5	7.1	---	---	---	---	---	---	---	---	---	---
4	1.6	7.1	---	---	---	---	---	---	---	---	---	---
5	1.7	7.2	9.1	8.1	---	---	---	---	---	---	8.2	7.5
6	2.0	7.2	8.8	8.6	8.4	8.0	---	---	---	---	8.3	7.6
7	1.9	7.3	8.7	8.2	8.4	8.1	---	---	8.0	7.8	8.3	7.8
8	1.6	7.4	8.1	7.8	8.3	8.2	---	---	8.3	8.0	8.5	8.2
9	1.9	7.4	8.0	7.6	8.4	8.1	---	---	8.1	7.8	8.6	8.2
10	2.7	7.5	8.0	7.9	8.4	8.2	---	---	8.2	7.9	8.7	7.0
11	3.1	7.6	7.9	7.8	8.4	8.0	---	---	8.3	8.0	7.4	6.1
12	2.0	7.6	7.8	7.7	8.2	8.0	---	---	8.2	7.8	7.8	5.9
13	3.8	7.6	7.8	7.6	8.2	8.0	---	---	8.2	7.9	8.5	7.2
14	3.8	7.2	7.8	7.6	8.2	8.0	---	---	8.3	8.2	8.5	5.8
15	3.6	7.3	8.5	7.7	8.2	7.9	---	---	8.2	8.2	8.6	5.1
16	2.3	7.2	8.9	8.5	8.2	7.9	---	---	8.2	8.0	8.1	6.4
17	2.5	7.2	9.0	8.7	8.2	8.0	---	---	8.1	8.0	8.5	7.2
18	1.2	7.4	9.0	8.1	8.4	8.2	---	---	8.1	7.9	8.5	7.1
19	1.1	7.4	8.1	7.9	8.7	8.4	---	---	8.0	7.7	8.1	6.4
20	2.6	7.3	7.9	7.8	8.6	8.1	---	---	8.0	7.9	8.0	7.3
21	2.6	7.3	7.9	7.7	8.3	8.1	---	---	7.9	7.6	8.9	7.9
22	2.1	7.4	8.0	7.9	8.4	8.2	---	---	7.9	7.6	9.1	8.6
23	2.0	7.5	---	---	8.7	8.1	---	---	7.8	7.6	9.4	8.7
24	2.2	7.6	---	---	8.1	7.8	---	---	7.9	7.4	9.1	8.4
25	2.0	7.9	---	---	8.0	7.9	---	---	7.6	7.4	8.8	8.4
26	2.5	7.9	---	---	---	---	---	---	7.4	7.0	8.9	8.7
27	2.6	8.0	---	---	---	---	---	---	7.2	7.0	9.0	8.7
28	3.2	7.6	---	---	---	---	---	---	9.3	6.9	9.0	8.8
29	3.1	7.6	---	---	---	---	---	---	---	---	9.0	8.8
30	---	---	---	---	---	---	---	---	---	---	9.1	8.9
31	---	---	---	---	---	---	---	---	---	---	9.0	8.9

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.1	8.8	---	---	8.4	8.3	---	---	8.0	7.6	8.6	8.0
2	9.0	8.1	7.2	6.4	8.4	8.0	---	---	8.0	7.6	9.5	8.4
3	8.9	8.3	7.2	6.8	8.0	7.5	---	---	8.0	7.6	10.0	8.5
4	8.5	7.9	8.1	7.1	8.5	7.3	---	---	8.0	7.7	9.2	8.5
5	8.2	7.6	8.7	7.1	8.1	7.6	---	---	8.0	7.6	8.8	8.3
6	8.2	7.8	8.1	7.3	8.1	7.5	---	---	7.9	7.5	8.8	8.0
7	8.5	7.9	8.0	7.5	8.1	7.6	---	---	7.9	7.5	8.6	7.9
8	9.0	8.0	7.9	7.0	8.3	7.5	---	---	7.9	7.4	8.5	8.2
9	8.2	7.9	7.7	7.0	8.1	7.6	7.9	6.4	8.2	7.4	9.9	8.3
10	8.1	7.5	7.6	6.5	---	---	7.8	6.4	9.5	8.0	10.0	8.8
11	8.3	7.9	---	---	---	---	7.1	6.4	8.8	8.0	9.2	8.4
12	8.2	7.8	7.5	6.5	---	---	7.3	5.7	8.2	7.7	9.9	9.0
13	9.2	7.9	7.9	6.6	---	---	6.2	5.5	8.0	7.5	---	---
14	8.1	7.8	8.3	7.4	---	---	5.9	5.4	8.1	7.6	---	---
15	7.8	6.6	8.4	7.9	---	---	6.0	5.2	8.0	7.8	8.0	7.9
16	7.8	6.4	8.5	7.8	---	---	7.1	5.4	8.0	6.7	7.9	7.5
17	8.3	7.4	8.7	8.4	---	---	8.4	6.7	8.1	7.2	7.8	7.5
18	7.8	6.8	8.5	8.0	---	---	9.5	7.3	8.0	6.9	8.0	7.7
19	---	---	8.0	7.4	---	---	9.4	7.3	7.7	6.9	7.9	7.5
20	---	---	8.3	7.4	---	---	---	9.2	8.4	8.1	7.7	7.4
21	---	---	8.4	7.6	---	---	---	7.6	8.4	8.1	7.6	7.4
22	---	---	8.1	7.5	---	---	8.7	7.6	8.3	8.0	7.6	7.2
23	8.8	8.2	8.1	7.4	---	---	9.3	7.8	8.1	7.9	---	---
24	8.8	7.9	8.3	7.7	---	---	8.1	6.8	8.2	7.9	---	---
25	8.3	7.9	8.1	7.1	---	---	8.0	7.6	8.6	8.2	---	---
26	8.1	6.1	9.2	7.0	---	---	8.0	7.9	8.4	8.2	---	---
27	---	---	8.5	7.4	---	---	8.1	7.8	8.4	8.2	---	---
28	---	---	8.4	7.8	---	---	8.0	7.8	8.9	8.3	---	---
29	---	---	8.3	7.6	---	---	8.1	7.8	8.8	8.4	---	---
30	---	---	8.4	8.1	---	---	8.1	7.8	9.0	8.5	---	---
31	---	---	8.4	8.2	---	---	8.3	7.7	8.8	8.5	---	---

3-1465. LICKING RIVER NEAR NEWARK, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	17.0	---	---	---	---	---	---	4.0	4.0	7.0	4.0
2	20.0	19.0	---	---	---	---	---	---	4.0	3.0	7.0	4.0
3	20.0	18.0	---	---	---	---	---	---	4.0	3.0	---	---
4	18.0	14.0	---	---	---	---	---	---	3.0	2.0	---	---
5	15.0	12.0	14.0	13.0	---	---	---	---	3.0	2.0	8.0	4.0
6	15.0	13.0	14.0	13.0	4.0	2.0	---	---	3.0	2.0	7.0	5.0
7	15.0	13.0	13.0	12.0	3.0	2.0	---	---	4.0	2.0	7.0	5.0
8	16.0	13.0	12.0	10.0	3.0	2.0	---	---	4.0	3.0	7.0	5.0
9	18.0	13.0	10.0	8.0	3.0	1.0	---	---	3.0	2.0	7.0	6.0
10	18.0	16.0	8.0	7.0	3.0	1.0	---	---	3.0	1.0	6.0	4.0
11	17.0	14.0	9.0	7.0	4.0	1.0	---	---	4.0	2.0	5.0	2.0
12	18.0	15.0	9.0	8.0	5.0	3.0	---	---	3.0	2.0	6.0	2.0
13	18.0	16.0	8.0	6.0	7.0	5.0	---	---	3.0	1.0	7.0	3.0
14	19.0	16.0	8.0	6.0	7.0	4.0	---	---	3.0	1.0	6.0	5.0
15	20.0	17.0	10.0	8.0	4.0	1.0	---	---	3.0	1.0	8.0	3.0
16	20.0	17.0	10.0	8.0	2.0	1.0	---	---	4.0	2.0	9.0	4.0
17	21.0	19.0	9.0	8.0	4.0	1.0	---	---	5.0	2.0	11.0	5.0
18	21.0	19.0	9.0	7.0	4.0	2.0	---	---	6.0	3.0	12.0	7.0
19	19.0	17.0	7.0	5.0	5.0	4.0	---	---	5.0	3.0	14.0	8.0
20	17.0	14.0	5.0	4.0	5.0	2.0	---	---	7.0	4.0	12.0	9.0
21	16.0	13.0	6.0	4.0	3.0	2.0	---	---	7.0	4.0	10.0	7.0
22	15.0	13.0	6.0	4.0	4.0	3.0	---	---	7.0	4.0	11.0	5.0
23	15.0	13.0	9.0	4.0	4.0	2.0	---	---	7.0	6.0	10.0	6.0
24	14.0	12.0	9.0	6.0	2.0	0.0	---	---	8.0	6.0	9.0	8.0
25	13.0	12.0	---	---	1.0	0.0	---	---	6.0	5.0	8.0	6.0
26	12.0	11.0	---	---	---	---	---	---	6.0	4.0	6.0	4.0
27	13.0	10.0	---	---	---	---	---	---	5.0	4.0	7.0	3.0
28	13.0	10.0	---	---	---	---	---	---	6.0	3.0	8.0	4.0
29	10.0	9.0	---	---	---	---	---	---	---	---	7.0	6.0
30	---	---	---	---	---	---	---	---	---	---	6.0	4.0
31	---	---	---	---	---	---	5.0	4.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.0	17.0	11.0	25.0	20.0	---	---	26.0	21.0	26.0	21.0
2	9.0	6.0	18.0	12.0	22.0	17.0	---	---	25.0	22.0	24.0	21.0
3	10.0	7.0	20.0	14.0	17.0	15.0	---	---	25.0	20.0	24.0	20.0
4	12.0	7.0	21.0	16.0	22.0	14.0	---	---	24.0	21.0	24.0	21.0
5	12.0	11.0	22.0	16.0	20.0	17.0	---	---	25.0	20.0	25.0	21.0
6	11.0	9.0	22.0	17.0	23.0	16.0	---	---	25.0	21.0	25.0	21.0
7	13.0	7.0	22.0	18.0	23.0	19.0	---	---	26.0	21.0	22.0	21.0
8	14.0	9.0	20.0	16.0	24.0	19.0	---	---	26.0	22.0	24.0	20.0
9	14.0	10.0	16.0	14.0	23.0	17.0	23.0	20.0	23.0	20.0	21.0	18.0
10	15.0	12.0	14.0	11.0	---	---	24.0	20.0	23.0	19.0	21.0	16.0
11	16.0	10.0	11.0	10.0	---	---	24.0	21.0	24.0	19.0	20.0	16.0
12	15.0	10.0	13.0	10.0	---	---	26.0	21.0	25.0	20.0	18.0	15.0
13	14.0	10.0	14.0	10.0	---	---	26.0	20.0	26.0	20.0	---	---
14	15.0	12.0	18.0	12.0	---	---	26.0	20.0	26.0	21.0	---	---
15	14.0	13.0	19.0	13.0	---	---	26.0	21.0	---	---	22.0	21.0
16	18.0	13.0	21.0	14.0	---	---	26.0	22.0	---	---	23.0	18.0
17	19.0	14.0	20.0	17.0	---	---	26.0	23.0	---	---	22.0	19.0
18	18.0	14.0	19.0	17.0	---	---	28.0	23.0	23.0	20.0	20.0	16.0
19	14.0	8.0	19.0	17.0	---	---	27.0	24.0	23.0	22.0	18.0	17.0
20	11.0	6.0	20.0	17.0	---	---	24.0	22.0	24.0	21.0	18.0	16.0
21	12.0	9.0	21.0	16.0	---	---	25.0	22.0	24.0	19.0	21.0	16.0
22	12.0	10.0	18.0	15.0	---	---	24.0	22.0	24.0	18.0	22.0	17.0
23	10.0	9.0	19.0	15.0	---	---	24.0	21.0	24.0	19.0	---	---
24	11.0	8.0	19.0	15.0	---	---	25.0	21.0	25.0	20.0	---	---
25	15.0	9.0	20.0	15.0	---	---	26.0	21.0	25.0	20.0	18.0	17.0
26	17.0	11.0	20.0	14.0	---	---	26.0	21.0	25.0	21.0	20.0	15.0
27	19.0	12.0	21.0	14.0	---	---	24.0	22.0	25.0	19.0	21.0	17.0
28	17.0	15.0	23.0	17.0	---	---	24.0	22.0	25.0	19.0	18.0	14.0
29	15.0	11.0	25.0	18.0	---	---	23.0	21.0	25.0	20.0	19.0	14.0
30	16.0	10.0	23.0	20.0	---	---	24.0	20.0	26.0	21.0	22.0	15.0
31	---	---	24.0	17.0	---	---	25.0	20.0	26.0	21.0	---	---

3-1475. LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OHIO

LOCATION.--Lat 39°59'18", long 82°04'50", in T.1 N., R.8 W., Muskingum County, temperature recorder at gaging station on left bank, 500 ft downstream from Dillon Dam, 2 miles northwest of Dillon Falls, and 5.8 miles upstream from mouth.
DRAINAGE AREA.--742 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1961 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 26°C Aug. 18, 19; minimum, 1°C Jan. 2-8.
EXTREMES, 1961-69.--Water temperatures: Maximum, 27°C June 17-19, 1967; minimum, freezing point Feb. 7-12, 1967.
REMARKS.--Chemical data for this station are published on page 356.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER																																
MAXIMUM	21	21	20	20	19	19	18	18	17	17	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	15	14	14	13	12	17
MINIMUM	20	20	20	19	19	18	18	17	17	16	16	16	16	16	16	16	16	16	17	17	17	17	16	17	16	15	14	14	13	12	12	16
NOVEMBER																																
MAXIMUM	12	12	11	11	11	11	11	11	11	11	11	10	9	9	9	9	9	9	9	8	8	7	7	7	7	7	7	7	7	7	--	9
MINIMUM	11	11	11	11	11	11	11	11	11	10	10	9	9	9	9	9	9	9	8	8	7	7	7	7	7	7	7	7	7	7	--	9
DECEMBER																																
MAXIMUM	7	7	7	7	7	6	6	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	4
MINIMUM	7	7	7	7	6	6	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	4
JANUARY																																
MAXIMUM	2	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	4	4	3	3	4	2
MINIMUM	2	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	3	3	3	3	3	2
FEBRUARY																																
MAXIMUM	4	5	5	4	4	4	4	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	4	4	4	4	3	--	--	--	3
MINIMUM	4	4	4	4	4	4	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	--	--	--	3
MARCH																																
MAXIMUM	3	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	5	7	7	8	8	8	8	8	8	8	8	7	7	7	5
MINIMUM	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	4	4	5	7	7	8	8	8	8	8	8	7	7	7	7	5
APRIL																																
MAXIMUM	7	7	7	8	9	9	11	11	11	13	13	13	13	13	13	15	16	16	16	16	14	13	13	13	12	12	13	14	14	14	--	12
MINIMUM	7	7	7	7	7	8	9	10	9	11	12	12	13	12	12	13	14	15	16	14	12	13	12	12	12	12	12	13	14	14	--	11
MAY																																
MAXIMUM	14	14	16	16	16	16	16	17	19	19	18	16	14	13	13	13	14	14	15	17	17	17	17	17	18	18	18	18	19	19	19	16
MINIMUM	14	14	14	15	16	16	16	16	17	18	16	14	13	13	13	13	13	13	13	14	16	16	16	16	17	18	18	18	18	19	19	16
JUNE																																
MAXIMUM	19	20	20	20	20	21	21	20	20	20	20	21	22	23	23	22	22	22	21	22	21	21	22	22	22	21	22	23	23	22	--	21
MINIMUM	19	19	20	20	19	19	20	20	20	20	20	20	21	22	22	22	22	21	21	21	21	21	21	22	21	21	21	22	22	22	--	21
JULY																																
MAXIMUM	22	22	22	22	22	21	21	21	21	22	22	23	23	22	22	22	23	23	23	22	22	23	23	23	24	23	23	24	24	23	23	22
MINIMUM	22	22	22	22	21	21	21	21	21	20	21	21	22	22	22	22	22	22	22	22	22	22	23	23	23	23	22	22	23	23	23	22
AUGUST																																
MAXIMUM	23	23	23	23	23	23	23	24	24	24	24	24	24	24	24	24	24	26	26	25	24	24	23	23	22	22	22	22	22	22	23	23
MINIMUM	23	23	23	23	23	23	23	23	24	24	24	24	24	24	24	24	24	24	25	24	24	23	23	22	22	22	22	22	22	22	22	23
SEPTEMBER																																
MAXIMUM	23	23	23	23	23	23	23	23	23	23	22	22	21	20	19	19	19	19	19	19	20	19	19	19	19	19	19	19	18	18	--	21
MINIMUM	23	23	23	23	23	23	23	23	23	22	22	21	20	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	18	18	--	20

MAXIMUM VALUE = 26 MINIMUM VALUE = 1

3-1492. MUSKINGUM RIVER AT PHILO, OHIO

LOCATION.--Lat 39°51'51", long 81°54'22", Muskingum County, along right bank of Muskingum River, about 2,000 ft below Philo Dam, on canal which supplies river water from above the dam to Ohio Power Company's Philo Generating Division at Philo.
DRAINAGE AREA.--7,196 sq mi.
PERIOD OF RECORD.--Chemical analyses: April 1965 to September 1969.
Water temperatures: April 1965 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,860 micromhos Oct. 1; minimum, 220 micromhos July 9.
pH: Maximum, 10.0 Jan. 1; minimum, 5.4 July 6.
Water temperatures: Maximum, 32°C July 26; minimum, freezing point on several days during December and January.
EXTREMES, 1965-69.--Specific conductance: Maximum, 1,950 micromhos Oct. 25, 1966; minimum, 170 micromhos Apr. 28, 1965.
pH: Maximum, 10.0 Jan. 1, 1969; minimum, 4.8 Mar. 16, 1966.
Dissolved oxygen (1965-67): Maximum, 15.0 mg/l or greater on many days during July and December 1966, January, February and September 1967; minimum, 2.0 mg/l June 15, 1967.
Water temperatures: Maximum, 32°C July 26, 1969; minimum, freezing point on many days in 1967 to 1969.
REMARKS.--Continuous water quality recorder operated since April 1965. The recorder is located in the basement of the generating plant. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitation. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on a daily basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.											
02...	1525	126	0	189	405	1.0	.6	1210	514	411	1830
31...	0740	162	0	188	208	.6	4.2	786	416	283	1280
NOV.											
07...	0730	152	0	198	312	1.0	7.1	1060	484	359	1610
30...	0800	140	0	128	104	.4	8.5	524	290	175	826
DEC.											
20...	0330	128	0	172	160	.5	8.1	676	355	250	1080
31...	0733	72	0	65	38	.2	9.4	246	145	86	402
JAN.											
18...	0750	126	0	166	138	.4	7.1	612	338	235	976
31...	0745	56	0	98	32	.2	6.6	256	160	114	419
FEB.											
01...	0730	54	0	86	39	.7	7.0	274	150	106	429
25...	0750	108	0	148	94	.4	6.4	542	285	196	798
MAR.											
25...	0705	104	0	200	162	.5	14	716	355	270	1120
31...	0715	96	0	132	85	.4	6.7	474	250	172	717
APR.											
17...	0708	106	0	125	139	.4	4.8	612	308	221	877
25...	0700	96	0	97	56	.4	6.0	368	212	134	548
MAY											
02...	0620	106	0	117	116	.3	5.5	532	227	140	798
21...	0615	94	0	92	46	.4	6.1	334	197	120	515
JUNE											
07...	0620	134	0	138	158	.5	8.6	696	352	242	1010
27...	0630	92	0	76	30	.3	11	258	170	95	433
JULY											
05...	0625	122	0	122	124	.6	24	508	270	170	831
09...	0622	48	0	40	9.5	.5	8.9	160	94	54	231
AUG.											
02...	0620	106	0	81	40	.3	5.9	314	188	101	479
30...	0615	142	0	146	187	.4	6.2	710	388	271	1110
SEPT.											
10...	0605	148	0	145	120	.6	6.1	570	334	213	900
23...	0623	168	0	170	340	.8	6.3	882	466	328	1430

3-1492. MUSKINGUM RIVER AT PHILO, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1960	1700	1240	1210	780	660	530	450	450	400	840	780
2	1850	1680	1370	1240	900	760	610	530	520	370	900	760
3	1760	---	1400	1370	900	600	660	580	530	480	870	830
4	---	---	1440	1380	690	660	590	550	540	470	880	860
5	1720	1520	1500	1440	710	680	640	590	620	470	900	860
6	1520	1320	1580	1500	680	640	660	640	510	440	900	820
7	---	---	1620	1580	740	640	680	650	490	440	910	860
8	---	---	1580	1210	730	660	690	670	550	470	920	860
9	1470	1410	1210	1200	700	660	730	680	510	430	960	850
10	1520	1440	1260	1210	830	680	720	710	480	470	960	800
11	1580	1520	1270	1200	740	710	730	720	530	470	920	780
12	1540	1460	1200	1160	810	740	840	730	560	480	800	760
13	1500	1460	1270	1150	870	790	890	840	520	480	820	780
14	1480	1420	1150	1130	880	830	870	860	560	510	---	---
15	1480	1460	1160	1110	900	830	900	860	610	560	---	---
16	---	---	1110	1060	920	900	930	900	620	590	---	---
17	---	---	1470	970	1000	890	980	910	660	620	---	---
18	1590	1530	970	880	1040	1000	980	760	710	660	---	---
19	1790	1590	1050	870	1080	1040	760	580	790	700	---	---
20	1680	1600	1070	950	1080	1000	620	530	780	680	1060	1000
21	1640	1540	950	860	990	840	540	490	800	700	1100	1010
22	1540	1460	930	910	840	800	660	540	790	730	1080	980
23	1690	1510	980	920	890	710	680	660	890	750	1090	980
24	1740	1690	1000	980	720	680	720	550	830	810	1100	1000
25	1720	1640	980	910	710	650	600	540	840	800	1120	980
26	1750	1650	910	890	770	680	640	590	830	780	1040	780
27	1750	1570	890	840	840	720	710	640	780	750	780	710
28	1570	1430	960	820	760	500	720	670	780	760	780	680
29	1430	1330	910	840	500	460	670	490	---	---	760	660
30	1330	1280	840	660	500	350	490	420	---	---	740	670
31	1280	1220	---	---	460	350	440	410	---	---	740	670

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	760	670	810	710	740	640	670	600	460	440	1100	910
2	830	750	840	700	680	640	720	670	500	460	1100	540
3	760	700	700	630	740	660	740	700	540	480	1030	840
4	710	690	710	660	760	710	790	710	540	500	1020	730
5	830	700	700	660	820	720	960	790	510	500	1030	740
6	830	650	720	670	960	820	1000	330	520	500	1180	970
7	650	560	740	700	1010	960	330	250	570	520	1220	1140
8	640	510	720	690	1000	900	300	240	680	570	1230	1150
9	570	540	760	600	900	860	250	220	810	680	1320	1020
10	620	540	600	560	940	860	280	250	910	800	1020	---
11	660	620	640	540	900	880	330	260	940	800	1000	920
12	710	610	540	440	940	900	370	330	880	800	980	920
13	720	710	620	500	960	910	430	340	880	820	1040	970
14	840	720	620	540	990	860	510	430	920	840	1100	1040
15	800	670	620	570	860	760	530	470	880	810	1150	1100
16	850	770	640	620	800	760	520	480	890	830	1160	1060
17	860	800	700	640	1000	800	550	490	---	---	1140	1100
18	870	770	670	600	960	850	550	540	---	---	1190	1130
19	810	600	660	610	930	860	550	540	---	---	1220	1160
20	600	510	640	540	970	920	550	540	---	---	1220	1180
21	560	510	630	510	920	840	580	540	890	670	1220	1090
22	720	540	640	520	930	870	540	490	740	580	1370	1110
23	790	620	600	560	920	880	510	460	640	550	1440	1320
24	620	520	590	510	920	740	550	480	660	610	1340	---
25	640	520	520	510	740	600	570	470	680	620	1300	1280
26	690	610	560	520	600	430	480	450	700	680	1380	1270
27	800	620	640	520	540	420	540	480	750	700	1420	1200
28	740	700	620	500	550	440	620	480	870	750	1240	1180
29	720	700	620	540	480	460	510	470	960	860	1220	1180
30	710	680	640	610	600	480	520	460	1130	960	1260	1220
31	---	---	710	630	---	---	470	450	1090	1000	---	---

3-1492. MUSKINGUM RIVER AT PHILO, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.9	6.4	7.7	7.7	7.8	7.4	10.0	9.0	7.6	6.9	7.5	6.8
2	---	---	7.7	7.6	7.5	7.2	9.9	9.1	7.4	6.5	7.1	6.7
3	---	---	7.7	7.5	7.4	7.1	9.6	8.4	7.0	6.4	7.3	6.5
4	---	---	7.6	7.6	7.5	7.0	8.9	8.4	7.0	6.2	7.2	6.7
5	8.9	6.7	7.7	7.6	7.2	6.7	8.9	7.5	7.5	6.8	7.4	6.7
6	8.5	8.0	7.7	7.7	7.6	7.1	8.0	7.0	7.8	7.0	7.1	6.6
7	8.3	6.8	7.7	7.5	7.6	7.2	7.4	7.1	7.8	6.9	7.0	6.2
8	---	---	7.5	7.4	7.6	7.3	7.9	7.3	7.9	7.0	6.8	6.1
9	7.9	7.8	7.5	7.3	7.8	6.6	7.9	6.9	7.2	6.6	6.9	6.5
10	8.0	7.9	7.5	7.3	8.0	7.1	7.7	7.0	7.7	6.8	7.2	6.4
11	8.1	7.9	7.5	7.5	8.3	7.4	7.6	6.3	7.6	6.8	7.7	6.7
12	8.1	7.8	7.5	7.3	8.3	7.6	7.1	6.5	7.8	7.1	7.9	7.1
13	8.1	7.8	7.3	7.1	8.0	7.6	7.3	6.4	8.0	7.0	8.0	7.2
14	8.0	7.8	7.3	7.1	7.8	7.5	8.3	7.1	8.0	6.8	---	---
15	8.0	7.9	7.3	7.1	8.0	7.5	8.5	7.5	8.2	7.5	---	---
16	---	---	7.6	7.1	8.0	7.5	8.5	7.5	8.0	7.1	---	---
17	---	---	7.3	6.9	8.3	7.3	8.4	7.2	7.4	6.8	---	---
18	7.7	7.6	7.6	7.3	8.3	7.3	7.6	6.7	7.6	6.7	---	---
19	7.7	7.5	7.6	7.5	8.5	7.8	8.2	6.6	7.8	6.6	---	---
20	7.5	7.4	7.7	7.4	8.2	7.5	8.3	7.8	7.8	6.6	7.5	6.4
21	7.8	7.4	7.8	7.6	8.3	7.6	8.1	7.3	7.5	6.7	7.6	6.3
22	8.0	7.7	7.7	7.3	8.2	7.5	7.7	7.0	7.2	6.7	7.7	6.5
23	8.0	7.8	7.5	7.2	8.3	7.4	7.8	7.2	7.2	6.2	7.7	6.4
24	7.8	7.6	7.6	7.4	8.8	8.2	7.6	7.1	7.2	6.5	7.7	6.5
25	7.6	7.5	7.8	7.4	8.9	8.2	8.1	7.3	7.1	6.4	7.3	6.3
26	7.5	7.5	7.8	7.5	8.6	7.7	8.7	7.8	7.2	6.6	7.2	6.5
27	7.7	7.5	8.0	7.7	8.5	8.0	8.9	8.0	7.5	6.8	7.8	6.7
28	7.8	7.6	7.9	7.7	8.3	7.6	8.5	7.7	7.7	6.8	7.8	6.7
29	7.8	7.7	7.4	7.1	8.9	8.0	8.2	7.0	---	---	7.6	6.6
30	7.8	7.7	7.9	7.4	9.0	8.4	7.0	6.6	---	---	7.9	6.6
31	7.8	7.7	---	---	9.1	8.4	7.4	6.7	---	---	8.0	6.9

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.1	7.2	7.5	6.5	7.9	7.1	7.3	7.1	7.3	7.1	8.3	7.9
2	7.8	7.0	7.4	6.4	7.7	7.1	7.1	6.9	7.3	7.2	7.9	7.7
3	7.6	6.6	7.4	6.5	7.1	6.8	7.1	7.0	7.3	7.2	7.7	7.3
4	7.2	6.5	7.5	7.3	7.3	7.0	7.5	6.8	7.3	7.3	7.6	7.3
5	7.2	6.6	7.4	7.3	7.5	7.2	7.8	6.4	7.6	7.3	7.4	7.1
6	7.1	6.4	7.5	7.3	7.6	7.3	7.9	5.4	7.4	7.3	7.2	7.1
7	7.4	6.7	7.5	7.3	7.6	7.2	6.6	6.1	7.6	7.3	7.2	7.0
8	7.2	6.9	7.5	7.1	7.8	7.2	6.6	6.1	7.6	7.4	7.1	7.0
9	7.1	6.8	7.2	6.6	8.2	7.4	6.7	6.6	7.6	7.3	7.2	7.1
10	7.1	6.9	7.3	7.1	8.1	7.7	6.8	6.6	7.3	6.6	---	---
11	7.4	6.9	7.2	6.8	8.2	7.4	6.9	6.7	7.3	6.9	7.7	7.4
12	7.5	6.3	7.1	6.9	8.5	8.0	7.0	6.7	7.3	7.1	8.0	7.4
13	7.1	6.9	7.2	7.0	8.1	6.9	7.1	7.0	7.3	7.2	8.0	7.3
14	7.2	6.9	7.1	6.9	7.4	6.7	7.0	7.0	7.7	7.2	8.1	7.3
15	7.3	7.0	7.1	6.9	7.3	6.7	7.1	7.0	7.9	7.3	8.1	7.5
16	7.2	7.0	7.1	7.0	7.0	6.8	7.1	7.1	7.8	7.3	8.0	7.2
17	7.3	7.2	7.2	7.0	7.1	6.9	7.2	7.0	---	---	---	---
18	7.3	7.1	7.2	7.1	7.1	6.9	7.2	7.1	---	---	7.2	6.9
19	7.4	6.9	7.1	7.0	7.1	6.9	7.2	7.1	---	---	7.0	6.9
20	7.5	7.3	7.1	7.0	7.3	7.0	7.2	7.1	---	---	7.1	7.0
21	7.4	7.2	7.1	6.9	8.0	7.2	7.1	6.5	7.2	7.0	7.0	6.9
22	7.4	7.2	7.2	7.0	8.6	7.9	7.1	6.9	7.1	7.0	7.0	6.8
23	7.4	6.8	7.2	7.1	7.9	7.4	7.3	7.1	7.2	7.0	6.9	6.7
24	7.4	6.8	7.2	7.1	7.5	6.9	7.3	7.2	7.2	7.1	6.8	6.7
25	7.5	6.9	7.2	7.1	6.9	6.6	7.3	7.2	7.3	7.2	6.9	6.8
26	7.5	6.9	7.3	7.1	6.9	6.7	7.2	7.1	7.7	7.2	7.0	6.7
27	7.4	7.2	7.3	7.0	7.0	6.7	7.2	6.9	7.9	7.4	7.0	6.9
28	7.5	6.5	7.4	5.8	7.2	6.9	7.0	6.6	8.0	7.6	6.9	6.8
29	7.6	6.5	7.3	7.1	7.3	7.1	7.2	7.0	8.1	7.9	6.8	6.7
30	7.4	6.4	7.3	7.2	7.5	7.2	7.3	7.2	8.1	7.9	6.9	6.6
31	---	---	7.7	7.2	---	---	7.2	7.1	8.4	7.9	---	---

3-1492. MUSKINGUM RIVER AT PHILO, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	10.1	10.0	14.0	13.7	15.0	14.2	13.1	11.0
2	---	---	---	---	10.1	10.0	15.0	13.1	15.0	13.2	11.7	7.3
3	---	---	---	---	10.2	10.1	15.0	14.9	14.0	9.2	11.2	7.9
4	---	---	---	---	10.3	10.2	15.0	15.0	13.3	10.8	11.6	10.5
5	---	---	---	---	12.8	10.3	15.0	15.0	13.5	12.7	11.8	10.6
6	---	---	---	---	13.5	12.8	15.0	15.0	13.9	12.9	11.6	10.5
7	---	---	---	---	14.1	13.5	15.0	15.0	14.3	13.5	11.0	9.9
8	---	---	---	---	14.7	12.6	15.0	13.1	14.5	13.8	11.6	9.9
9	---	---	---	---	12.7	10.9	13.2	12.7	14.3	11.3	12.2	10.4
10	---	---	---	---	15.0	10.5	12.9	12.1	14.9	14.2	12.2	10.4
11	---	---	---	---	15.0	13.4	12.8	12.1	15.0	14.4	11.7	10.5
12	---	---	---	---	13.6	12.6	13.2	12.3	15.0	14.7	12.6	10.9
13	---	---	---	---	12.9	12.5	13.1	12.3	15.0	14.9	12.6	10.3
14	---	---	---	---	12.7	12.4	12.8	12.0	15.0	15.0	---	---
15	---	---	---	---	12.8	12.6	12.8	12.0	15.0	15.0	---	---
16	---	---	---	---	13.0	12.8	13.0	12.0	15.0	15.0	---	---
17	---	---	---	---	13.3	11.2	12.5	12.1	15.0	15.0	---	---
18	---	---	---	---	15.0	12.0	12.2	11.6	15.0	14.2	---	---
19	---	---	---	---	13.1	12.6	11.7	11.2	14.4	13.3	---	---
20	---	---	---	---	12.9	12.4	11.7	8.3	13.6	12.5	---	---
21	---	---	---	---	12.7	12.4	11.9	7.9	15.0	12.6	---	---
22	---	---	11.3	10.1	12.9	12.7	14.0	11.4	15.0	14.7	---	---
23	---	---	10.3	10.1	12.8	12.4	15.0	11.7	15.0	6.1	---	---
24	---	---	10.3	9.9	13.0	12.8	13.6	11.9	10.9	6.4	---	---
25	---	---	10.0	9.8	13.2	12.9	14.4	13.2	10.9	10.4	---	---
26	---	---	10.2	9.9	13.3	13.1	15.0	14.0	11.0	10.6	---	---
27	---	---	10.1	9.8	14.5	13.1	15.0	14.9	11.4	10.8	---	---
28	---	---	10.0	9.7	13.4	12.8	15.0	12.8	11.3	10.9	---	---
29	---	---	9.9	9.6	13.2	13.0	13.9	9.5	---	---	---	---
30	---	---	10.1	9.8	13.4	13.2	15.0	13.3	---	---	---	---
31	---	---	---	---	13.7	12.9	15.0	15.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	10.2	9.8	9.0	8.1	6.0	5.4	10.0	9.1	---	---
2	---	---	10.1	9.8	8.9	8.2	7.3	5.4	14.6	9.1	---	---
3	---	---	10.0	9.6	9.0	8.4	7.2	6.9	---	---	---	---
4	---	---	9.8	9.5	9.0	8.3	7.8	7.0	---	---	---	---
5	---	---	10.2	9.6	8.8	8.1	8.0	7.3	---	---	9.3	8.2
6	---	---	10.0	9.1	8.8	8.0	7.9	7.0	---	---	10.2	9.1
7	---	---	9.3	8.5	8.1	7.4	7.4	7.0	---	---	10.2	9.5
8	---	---	9.0	8.3	7.9	7.1	7.0	6.7	---	---	10.1	8.6
9	---	---	8.8	8.2	8.4	7.3	7.1	6.8	---	---	10.1	9.1
10	---	---	8.7	8.1	8.4	7.7	7.6	7.1	---	---	10.2	9.1
11	---	---	9.6	8.7	8.5	7.0	7.7	7.5	---	---	10.3	8.9
12	---	---	10.2	9.6	8.5	7.4	7.8	7.5	---	---	---	---
13	---	---	10.2	9.5	8.4	7.2	7.8	7.3	---	---	---	---
14	---	---	10.4	9.9	7.7	7.0	8.2	7.8	---	---	---	---
15	---	---	10.5	10.1	7.1	6.4	8.5	8.2	---	---	---	---
16	---	---	10.1	9.9	6.8	6.4	8.5	8.4	---	---	---	---
17	---	---	11.5	8.8	6.8	6.4	8.6	8.4	---	---	---	---
18	8.8	5.8	11.5	10.6	6.6	6.3	8.6	8.5	---	---	---	---
19	9.8	5.5	11.0	10.0	6.9	6.3	8.6	8.3	---	---	---	---
20	10.3	9.7	10.5	10.2	7.1	6.5	8.5	8.4	---	---	---	---
21	10.5	10.1	10.4	10.1	7.2	6.6	8.5	8.1	---	---	---	---
22	10.4	10.1	10.5	10.1	7.1	6.5	8.2	8.1	---	---	---	---
23	10.8	10.1	10.6	10.1	6.7	6.3	8.2	7.5	---	---	---	---
24	10.7	10.4	10.5	10.2	6.6	5.7	7.9	7.2	---	---	---	---
25	10.6	10.3	10.6	10.2	5.9	5.5	7.9	7.2	---	---	6.4	4.5
26	10.4	8.7	11.0	10.4	5.9	4.7	8.1	7.9	---	---	6.9	5.9
27	10.6	8.6	11.3	10.4	5.8	5.5	8.1	7.5	---	---	7.0	6.1
28	10.0	9.5	11.7	9.9	5.7	5.6	7.8	7.5	---	---	6.1	5.1
29	10.9	9.7	12.1	8.7	5.8	5.7	9.0	7.3	---	---	7.0	5.3
30	10.5	10.0	8.7	7.7	6.1	5.7	9.7	8.0	---	---	7.2	6.0
31	---	---	8.8	7.7	---	---	10.2	9.4	---	---	---	---

3-1492. MUSKINGUM RIVER AT PHILO, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.0	20.0	12.0	11.0	8.0	7.0	2.0	0.0	4.0	4.0	5.0	5.0
2	21.0	20.0	13.0	12.0	7.0	7.0	1.0	0.0	4.0	4.0	6.0	5.0
3	20.0	20.0	13.0	13.0	8.0	7.0	1.0	0.0	4.0	4.0	6.0	5.0
4	20.0	18.0	14.0	13.0	8.0	7.0	1.0	1.0	4.0	3.0	6.0	5.0
5	18.0	18.0	14.0	13.0	7.0	6.0	1.0	1.0	3.0	2.0	6.0	5.0
6	18.0	17.0	14.0	14.0	6.0	5.0	1.0	1.0	2.0	2.0	6.0	6.0
7	17.0	16.0	14.0	14.0	5.0	4.0	1.0	1.0	3.0	2.0	6.0	6.0
8	17.0	16.0	14.0	12.0	4.0	3.0	1.0	0.0	3.0	2.0	6.0	6.0
9	17.0	16.0	12.0	11.0	3.0	2.0	0.0	0.0	3.0	2.0	6.0	6.0
10	17.0	16.0	11.0	10.0	2.0	2.0	0.0	0.0	3.0	2.0	6.0	5.0
11	17.0	16.0	10.0	10.0	2.0	1.0	1.0	0.0	3.0	2.0	5.0	4.0
12	18.0	17.0	10.0	9.0	2.0	1.0	1.0	0.0	3.0	3.0	4.0	3.0
13	19.0	18.0	9.0	8.0	4.0	2.0	1.0	0.0	3.0	2.0	4.0	3.0
14	19.0	18.0	9.0	9.0	4.0	3.0	1.0	1.0	3.0	2.0	---	---
15	19.0	18.0	9.0	9.0	3.0	2.0	1.0	1.0	2.0	2.0	---	---
16	---	---	10.0	9.0	2.0	1.0	1.0	1.0	2.0	2.0	---	---
17	---	---	10.0	10.0	2.0	1.0	2.0	1.0	3.0	2.0	---	---
18	20.0	19.0	10.0	9.0	2.0	1.0	3.0	2.0	3.0	3.0	---	---
19	20.0	19.0	9.0	9.0	3.0	2.0	2.0	1.0	4.0	3.0	---	---
20	20.0	19.0	9.0	8.0	3.0	3.0	1.0	1.0	4.0	4.0	10.0	10.0
21	20.0	18.0	8.0	7.0	3.0	3.0	2.0	1.0	5.0	4.0	11.0	10.0
22	19.0	17.0	7.0	6.0	4.0	3.0	3.0	2.0	5.0	5.0	11.0	10.0
23	18.0	17.0	7.0	6.0	4.0	2.0	4.0	3.0	6.0	5.0	10.0	10.0
24	17.0	16.0	8.0	7.0	2.0	1.0	4.0	4.0	6.0	5.0	11.0	10.0
25	16.0	15.0	8.0	7.0	1.0	1.0	4.0	3.0	5.0	5.0	12.0	10.0
26	15.0	14.0	7.0	7.0	1.0	0.0	3.0	2.0	5.0	5.0	11.0	7.0
27	14.0	14.0	8.0	7.0	1.0	0.0	2.0	1.0	5.0	5.0	8.0	6.0
28	14.0	13.0	9.0	8.0	3.0	1.0	2.0	1.0	5.0	4.0	8.0	7.0
29	13.0	12.0	9.0	8.0	3.0	2.0	3.0	2.0	---	---	8.0	8.0
30	12.0	11.0	8.0	8.0	3.0	2.0	5.0	3.0	---	---	7.0	7.0
31	12.0	11.0	---	---	3.0	2.0	5.0	4.0	---	---	7.0	6.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	6.0	15.0	14.0	24.0	23.0	27.0	27.0	24.0	23.0	25.0	24.0
2	7.0	6.0	16.0	15.0	24.0	23.0	27.0	26.0	24.0	23.0	25.0	24.0
3	8.0	7.0	17.0	16.0	23.0	21.0	27.0	25.0	24.0	23.0	24.0	24.0
4	10.0	8.0	18.0	17.0	21.0	20.0	27.0	26.0	24.0	23.0	24.0	24.0
5	10.0	10.0	20.0	18.0	21.0	20.0	26.0	26.0	24.0	23.0	24.0	24.0
6	11.0	10.0	20.0	19.0	22.0	20.0	26.0	21.0	24.0	23.0	24.0	24.0
7	12.0	10.0	23.0	20.0	22.0	21.0	21.0	20.0	24.0	23.0	24.0	24.0
8	13.0	11.0	23.0	21.0	23.0	22.0	21.0	20.0	24.0	23.0	24.0	24.0
9	14.0	11.0	21.0	19.0	23.0	22.0	21.0	20.0	24.0	22.0	24.0	22.0
10	14.0	13.0	19.0	17.0	23.0	22.0	22.0	21.0	22.0	21.0	22.0	22.0
11	16.0	14.0	17.0	15.0	24.0	23.0	23.0	22.0	22.0	22.0	22.0	21.0
12	16.0	13.0	15.0	14.0	26.0	24.0	24.0	22.0	23.0	22.0	21.0	18.0
13	15.0	14.0	14.0	13.0	26.0	25.0	23.0	22.0	23.0	22.0	22.0	20.0
14	15.0	14.0	16.0	14.0	26.0	26.0	25.0	21.0	24.0	23.0	22.0	20.0
15	15.0	14.0	17.0	15.0	26.0	24.0	24.0	22.0	24.0	24.0	22.0	21.0
16	15.0	14.0	18.0	17.0	24.0	23.0	23.0	22.0	24.0	24.0	22.0	21.0
17	17.0	15.0	20.0	18.0	23.0	22.0	24.0	22.0	---	---	---	---
18	19.0	17.0	20.0	19.0	23.0	22.0	24.0	23.0	---	---	21.0	21.0
19	18.0	14.0	20.0	19.0	23.0	22.0	26.0	23.0	---	---	21.0	20.0
20	14.0	13.0	20.0	20.0	24.0	23.0	24.0	22.0	---	---	20.0	20.0
21	13.0	12.0	20.0	19.0	24.0	23.0	23.0	21.0	23.0	22.0	20.0	19.0
22	12.0	11.0	20.0	19.0	24.0	23.0	25.0	22.0	23.0	22.0	21.0	20.0
23	12.0	11.0	20.0	19.0	24.0	23.0	30.0	25.0	23.0	22.0	21.0	19.0
24	12.0	10.0	20.0	19.0	24.0	23.0	30.0	27.0	24.0	23.0	21.0	20.0
25	13.0	11.0	20.0	18.0	24.0	23.0	30.0	26.0	24.0	23.0	20.0	---
26	14.0	12.0	20.0	18.0	24.0	22.0	32.0	25.0	24.0	24.0	20.0	19.0
27	15.0	13.0	20.0	19.0	26.0	23.0	27.0	25.0	24.0	23.0	20.0	19.0
28	16.0	15.0	23.0	19.0	26.0	25.0	27.0	25.0	24.0	23.0	19.0	16.0
29	16.0	15.0	22.0	20.0	26.0	25.0	25.0	23.0	24.0	24.0	20.0	15.0
30	15.0	14.0	23.0	22.0	27.0	26.0	23.0	22.0	24.0	24.0	18.0	18.0
31	---	---	23.0	22.0	---	---	24.0	23.0	25.0	24.0	---	---

3-1503. MUSKINGUM RIVER NEAR BEVERLY, OHIO

LOCATION.--Lat 39°35'30", long 81°40'50", Washington County, at Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Ohio Power Company water intake near Beverly, 1 mile downstream from Meigs Creek, and 1.1 miles upstream from Olive Green Creek.
DRAINAGE AREA.--7,626 sq mi.
PERIOD OF RECORD.--Chemical analyses: July 1963 to September 1969.
Water temperatures: July 1963 to September 1969.
EXTREMES, 1963-69.--Specific conductance (1963-68): Maximum daily, 2,070 micromhos Oct. 12, 1963, Nov. 7, 1964; minimum daily, 265 micromhos Mar. 12, 1964.
Water temperatures (1963-68): Maximum, 36°C Sept. 1, 1966; minimum, freezing point Jan. 25, 12, 1968.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Samples for iron and manganese were filtered clear when collected. Records of discharge are given for 03-1500.00 Muskingum River at McConnelsville, Ohio (drainage area 7,422 sq mi). Flow regulated by 15 flood-control reservoirs.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)
OCT.									
08...	1030	1182	240	120	180	270	6.2	910	1440
11...	0830	1120	--	--	197	380	6.7	--	1800
19...	0900	1110	--	--	211	190	5.9	--	1270
NOV.									
04...	1120	1490	--	--	228	325	7.4	--	1700
08...	1000	2340	110	550	198	180	7.6	770	1210
29...	1310	5460	--	--	140	124	5.1	--	902
DEC.									
10...	1000	4860	750	160	112	96	6.4	480	728
23...	1100	6090	--	--	153	142	5.8	--	971
31...	1000	27200	--	--	69	38	7.1	--	417
JAN.									
16...	1000	3260	630	810	135	116	2.3	--	868
28...	--	6840	630	270	108	87	2.8	400	672
31...	--	25800	1600	310	112	50	2.3	--	--
FEB.									
04...	0930	28000	200	440	80	91	4.5	378	570
10...	--	18300	510	240	103	44	3.5	--	476
26...	1100	4350	520	950	141	108	2.8	--	831
MAR.									
18...	0900	2540	300	8500	132	116	5.8	562	888
25...	1015	4200	--	--	164	158	7.4	--	1060
29...	1000	7140	--	--	134	92	5.8	--	777
APR.									
01...	1530	5700	250	600	118	100	4.9	--	753
10...	0930	13800	110	210	88	50	8.2	--	518
14...	1345	7560	800	130	83	92	5.6	472	686
MAY									
01...	1015	7920	--	--	95	104	5.4	--	717
13...	1000	15900	--	--	86	37	6.0	--	472
21...	0800	12800	200	200	118	64	4.9	450	645
JUNE									
10...	1345	3310	--	--	119	162	6.7	--	1010
18...	0800	3800	290	860	140	90	4.5	458	786
30...	0800	4890	--	--	79	42	5.1	--	495
JULY									
05...	1000	2790	--	--	107	74	6.0	--	672
10...	1500	27000	--	--	53	9.0	5.3	--	248
24...	0900	20900	870	120	74	54	4.0	300	509
AUG.									
01...	1120	16500	500	100	78	37	5.1	--	454
11...	1115	5700	330	210	95	70	6.5	--	676
20...	1400	6000	180	210	146	127	5.1	--	942
SEPT.									
03...	0900	2160	40	150	148	118	3.7	--	908
10...	1230	2300	270	280	157	162	4.1	640	1070
30...	1030	1580	120	440	174	252	6.1	--	1360

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3-1503. MUSKINGUM RIVER NEAR BEVERLY, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1460	--	--	--	--	--	753	717	--	496	454	--
2.....	1450	--	728	--	--	--	728	--	648	507	502	--
3.....	1410	--	--	583	--	792	--	--	720	524	--	908
4.....	--	1700	--	680	570	787	--	--	683	--	484	1130
5.....	--	1600	691	--	541	--	719	669	662	672	504	--
6.....	--	1390	716	--	633	--	--	673	599	--	490	--
7.....	1380	1300	--	631	537	--	779	684	736	428	510	--
8.....	1440	1210	--	694	552	--	668	683	--	263	522	1070
9.....	1520	1300	--	671	--	--	571	697	896	--	550	1060
10.....	1710	--	728	680	476	877	518	665	1010	248	--	1070
11.....	1800	1490	695	686	510	916	--	--	--	--	676	1140
12.....	--	1570	--	--	526	877	--	--	--	--	870	1140
13.....	--	1310	--	744	514	911	--	472	--	--	937	1200
14.....	--	1200	--	744	514	854	686	640	889	--	831	--
15.....	1410	--	--	866	552	--	--	--	--	--	890	--
16.....	1340	--	--	868	--	--	--	600	898	498	--	--
17.....	1320	--	--	--	--	858	--	638	--	513	--	908
18.....	1340	1120	--	--	642	888	--	--	786	551	876	930
19.....	1270	1030	--	--	676	960	--	704	806	--	870	977
20.....	--	907	--	647	693	955	--	618	867	--	942	1020
21.....	--	939	--	653	767	--	--	645	915	544	785	--
22.....	1390	1040	--	600	769	--	--	525	--	532	939	--
23.....	--	--	971	--	--	--	--	658	915	507	--	--
24.....	--	--	850	--	746	1020	666	--	974	509	--	--
25.....	1520	929	--	--	748	1060	--	--	887	523	--	--
26.....	--	--	--	--	831	1000	--	516	684	--	--	--
27.....	--	--	--	638	825	1050	--	520	547	--	--	--
28.....	1510	--	--	672	--	822	648	--	495	547	--	--
29.....	--	902	--	738	--	777	742	--	--	513	--	--
30.....	1530	--	--	--	--	--	718	--	495	459	--	1360
31.....	--	--	417	505	--	--	--	--	--	496	--	--
AVERAGE	--	--	--	--	--	--	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	27	27	24	--	--	--	19	19	20	21	20	--	--	--	21	22	22	22	20	--	--	18	--	--	18	--	--	13	--	16	--	--
NOVEMBER.	--	--	--	15	14	14	14	13	12	--	11	11	10	8	--	--	--	11	10	9	8	9	--	--	8	--	--	--	10	--	--	--
DECEMBER.	--	7	--	--	6	4	--	--	--	2	3	--	--	--	--	--	--	--	--	--	--	--	6	4	--	--	--	--	--	--	5	--
JANUARY..	--	--	2	2	--	--	3	3	3	3	3	--	3	3	4	4	--	--	--	4	3	3	--	--	--	--	4	3	3	--	7	--
FEBRUARY.	--	--	--	6	5	4	4	4	--	4	4	4	4	4	3	--	--	3	3	4	5	6	--	7	7	6	7	--	--	--	--	--
MARCH....	--	--	7	6	--	--	--	--	--	7	6	6	6	6	--	--	6	7	7	8	--	--	--	11	11	10	9	8	8	--	--	--
APRIL....	8	8	--	--	10	--	11	12	12	13	--	--	--	--	--	--	--	--	--	--	--	--	--	14	--	--	--	16	15	15	--	--
MAY,.....	14	15	--	--	18	20	20	21	21	21	--	--	16	14	--	16	21	--	20	20	21	20	20	--	--	18	18	--	--	--	--	--
JUNE.....	--	24	22	22	22	22	22	--	23	23	--	--	--	24	--	24	--	24	23	24	24	--	24	24	24	24	24	26	--	27	--	--
JULY.....	27	27	27	--	29	--	23	22	--	22	--	--	--	--	--	26	25	25	--	--	25	26	26	27	27	--	--	26	25	24	24	--
AUGUST...	26	24	--	26	24	26	28	28	25	--	26	26	26	27	29	--	--	28	29	28	27	27	--	--	--	--	--	--	--	--	--	--
SEPTEMBER	--	--	--	--	--	--	--	26	26	25	24	24	23	--	--	--	24	24	23	22	--	--	--	--	--	--	--	--	--	24	--	--

3-1595.1. HOCKING RIVER BELOW ATHENS, OHIO

LOCATION.--Lat 39°19'39", long 82°00'18", Athens County, at Harmony Lane Bridge, 5.5 miles downstream from gaging station at Athens.
DRAINAGE AREA.--957 sq mi.
PERIOD OF RECORD.--Chemical analyses: May 1966 to September 1969.
Water temperatures: May 1966 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,500 micromhos Oct. 3; minimum, 150 micromhos July 22.
Dissolved oxygen: Maximum, 13.7 mg/l Feb. 19; minimum, 2.6 mg/l Jan. 27.
Water temperatures: Maximum, 32°C Aug. 5, 30; minimum, freezing point on many days during December to February.
EXTREMES, 1966-69.--Specific conductance (1966-67, 1968-69): Maximum, 1,500 micromhos July 12, 1966, Oct. 3, 1968; minimum, 140 micromhos July 13, 1966, Mar. 5, 1967.
Dissolved oxygen (1968-69): Maximum, 13.7 mg/l Feb. 19, 1969; minimum, 2.6 mg/l Jan. 27, 1969.
Water temperatures: Maximum, 32°C Aug. 5, 30, 1969; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since May 1966. Specific conductance values listed as 1,500 micromhos represent values of 1,500 micromhos or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 03-1595.00 Hocking River at Athens, Ohio (drainage area 943 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
11...	1110	114	34	0	358	110	.2	6.6	788	413	385	1110
25...	1900	95	23	0	436	140	.2	15	926	485	462	1320
NOV.												
02...	1300	88	52	0	428	115	.2	6.0	892	485	442	1280
21...	1115	233	18	0	326	90	.2	4.6	682	374	359	997
DEC.												
16...	1300	190	68	0	245	106	.2	4.2	638	360	304	938
29...	1800	3840	52	0	101	50	.3	6.1	346	185	143	485
JAN.												
12...	1100	240	78	0	236	92	.2	6.0	550	319	255	892
30...	1800	6780	36	0	66	26	.2	4.5	192	111	82	313
FEB.												
10...	1800	3510	48	0	88	30	.2	5.1	250	150	111	395
17...	1330	784	72	0	184	60	.1	4.8	466	270	211	704
MAR.												
02...	2000	398	80	0	228	66	.1	5.1	558	315	249	819
24...	1145	278	70	0	251	90	.3	3.9	602	330	272	914
APR.												
02...	1800	670	56	0	175	68	.2	4.3	452	264	218	694
07...	2000	4670	30	0	101	33	.2	4.0	226	146	122	397
MAY												
11...	1100	2480	36	0	125	32	.2	3.1	332	184	155	462
25...	2100	408	58	0	234	70	.2	3.4	574	318	270	820
JUNE												
01...	1500	230	68	0	252	102	.3	3.9	670	382	326	1000
14...	2100	1310	14	0	172	48	.2	2.9	354	224	213	543
JULY												
06...	1110	299	98	0	221	73	.3	7.1	542	322	241	819
21...	2000	413	108	0	278	76	.3	4.4	610	380	291	945
AUG.												
10...	1700	1920	38	0	150	87	.3	5.5	402	234	203	678
31...	1700	131	134	0	273	91	.3	5.8	634	390	280	1010
SEPT.												
14...	2000	89	122	0	283	95	.4	3.5	660	386	286	1030
28...	1200	87	110	0	328	79	.5	6.2	758	406	316	1130

3-1595.1. HOCKING RIVER BELOW ATHENS, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1220	1180	1320	1160	940	750	---	---	350	320	840	800
2	1250	1200	1340	1220	850	740	---	---	400	330	850	810
3	1500	800	1360	1310	910	660	---	---	340	---	860	820
4	800	700	1320	1120	890	810	---	---	---	---	860	820
5	770	720	1360	1080	810	680	---	---	---	---	850	820
6	950	770	1370	1330	840	770	---	---	---	---	840	820
7	1090	950	1350	1270	800	740	---	---	---	---	870	820
8	1130	1070	1300	890	860	900	---	---	---	---	880	840
9	1150	1090	1320	1020	900	840	---	---	---	---	890	860
10	---	---	1330	1190	920	840	930	860	420	390	890	860
11	1120	1090	1350	1310	950	430	940	890	410	380	900	870
12	1110	1050	1330	1250	1000	960	920	880	410	390	910	870
13	1100	1060	1320	1230	1000	900	880	840	510	320	920	870
14	1150	1080	1310	1230	920	880	890	860	---	---	940	840
15	1220	1150	1250	1220	960	910	870	830	---	---	930	890
16	1230	1140	1240	1180	990	620	870	840	---	---	930	900
17	1200	1140	1320	830	990	680	870	840	720	670	920	890
18	1240	1180	990	870	990	860	880	860	720	680	940	890
19	1230	1190	1060	930	1000	840	860	---	740	690	940	890
20	1260	1200	1090	980	930	890	---	---	750	720	930	900
21	1240	1190	1040	990	980	870	---	---	760	720	960	900
22	1290	1220	1070	1020	970	760	---	---	790	740	950	900
23	1320	1230	1110	1030	770	620	640	620	780	750	950	920
24	1320	1240	1120	930	750	570	660	630	810	760	920	890
25	1350	1190	1110	1060	600	500	680	660	820	760	960	920
26	1340	1170	1120	1070	---	---	680	640	820	780	840	620
27	1370	1280	1110	1070	---	---	700	630	810	780	630	570
28	1350	1250	1120	940	---	---	730	650	840	800	610	570
29	1310	1170	1010	820	---	---	730	550	---	---	630	590
30	1210	1140	1000	810	---	---	550	310	---	---	680	620
31	1210	1150	---	---	---	---	330	310	---	---	690	660

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	710	670	---	---	1000	880	710	650	950	900	1020	960
2	750	630	---	---	990	890	750	700	980	840	1060	970
3	760	700	---	---	980	880	800	740	900	820	1060	1010
4	740	670	---	---	1060	980	800	730	1070	900	1080	1000
5	730	610	---	---	1030	900	800	720	1100	930	1060	1010
6	720	310	810	770	920	890	840	730	930	880	1140	1050
7	440	310	830	780	920	860	810	730	880	850	1100	1070
8	510	440	830	770	930	890	810	670	860	820	1100	1040
9	550	500	820	510	960	860	720	530	830	780	1110	1010
10	580	530	510	430	960	880	660	550	780	410	1160	1060
11	620	570	510	440	980	900	720	620	420	360	1160	1060
12	660	610	530	480	980	930	750	680	480	420	1150	1060
13	660	630	530	500	1000	950	850	700	550	470	1060	1040
14	700	670	570	520	1000	540	840	750	640	550	1040	1020
15	710	670	610	550	730	370	860	790	690	600	1070	1040
16	680	580	660	610	500	360	920	740	720	660	1030	740
17	580	510	690	630	530	470	850	800	760	690	1180	730
18	600	520	710	650	630	510	860	800	800	740	1200	1100
19	520	420	720	680	700	610	910	830	860	790	1100	1060
20	440	400	740	700	780	680	910	810	910	840	1060	1020
21	450	420	720	660	820	740	950	840	870	840	1090	1010
22	500	420	700	670	860	800	1030	150	890	860	1140	1080
23	520	470	730	690	870	820	860	710	900	860	1140	1060
24	540	490	780	730	920	800	800	740	910	840	1100	1060
25	---	---	810	770	800	380	800	700	930	890	1120	1090
26	---	---	870	770	460	410	840	750	920	880	1180	1100
27	---	---	850	780	490	410	850	800	900	850	1200	1150
28	---	---	880	810	530	470	900	800	990	840	1170	1110
29	---	---	890	820	630	510	960	860	1020	820	1170	1120
30	---	---	930	850	670	600	940	910	1020	900	1160	1110
31	---	---	930	860	---	---	940	860	1030	880	---	---

3-1595.1. HOCKING RIVER BELOW ATHENS, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.6	7.5	8.9	8.3	6.4	5.3	---	---	8.4	7.8	13.0	9.5
2	8.6	7.2	8.8	8.1	---	---	---	---	8.7	6.4	12.0	10.6
3	7.9	5.0	8.9	8.4	---	---	---	---	9.3	7.2	11.4	9.2
4	9.4	7.4	8.5	7.3	---	---	---	---	9.5	8.3	12.3	9.5
5	9.8	8.1	8.3	7.3	---	---	---	---	8.6	7.5	10.5	7.9
6	9.1	8.3	8.2	7.8	---	---	---	---	9.2	8.2	9.8	7.3
7	8.6	7.4	8.1	7.5	---	---	---	---	8.4	7.7	9.2	7.6
8	8.9	7.8	10.1	7.3	---	---	---	---	8.6	7.5	9.9	7.8
9	8.2	7.9	9.7	8.3	---	---	---	---	8.8	7.5	10.0	8.8
10	---	---	---	9.4	8.9	---	---	---	---	9.5	8.0	10.6
11	8.4	7.7	9.0	8.7	---	---	---	---	10.0	8.5	11.2	8.1
12	7.9	6.8	8.8	8.6	---	---	---	---	9.7	9.2	11.6	9.3
13	7.6	6.4	9.0	8.7	---	---	---	---	10.2	9.7	12.4	9.8
14	7.8	6.6	9.1	8.9	---	---	---	---	---	---	11.8	10.0
15	7.7	6.1	8.9	8.7	---	---	---	---	---	---	11.7	9.3
16	8.0	6.6	8.8	8.5	---	---	---	---	---	---	10.8	8.8
17	7.6	6.1	10.4	8.1	---	---	---	---	12.8	11.9	10.8	8.4
18	7.1	5.6	10.3	9.2	---	---	---	---	12.8	11.4	10.3	8.1
19	7.1	6.0	10.4	9.4	---	---	---	---	13.7	11.9	9.6	7.8
20	8.4	6.4	10.8	9.9	---	---	---	---	12.9	11.7	9.2	8.0
21	8.4	6.8	10.5	9.7	---	---	---	---	13.0	11.7	8.5	7.6
22	8.0	6.7	10.1	9.6	---	---	---	---	13.3	12.1	8.9	7.9
23	8.6	6.9	9.9	9.5	---	---	10.8	9.9	13.0	11.8	9.0	8.4
24	10.8	7.4	9.5	6.0	---	---	10.9	9.9	12.9	11.7	9.8	7.5
25	8.4	7.5	7.6	7.2	---	---	11.0	10.2	12.6	10.3	9.8	9.3
26	9.1	7.5	7.6	7.0	---	---	10.6	9.1	12.1	8.9	11.1	9.8
27	8.6	7.8	7.7	6.8	---	---	10.3	2.6	10.7	8.6	11.4	10.8
28	8.0	7.6	7.2	5.9	---	---	9.4	8.5	12.9	9.4	11.4	10.8
29	8.3	7.4	6.5	6.1	---	---	8.9	8.1	---	---	11.0	10.0
30	8.3	7.9	6.7	6.2	---	---	8.6	7.0	---	---	11.1	10.1
31	8.7	8.1	---	---	---	---	8.2	5.1	---	---	11.1	10.7

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	10.4	---	---	10.7	6.4	7.7	6.9	9.0	6.9	10.6	8.2
2	10.6	9.6	---	---	8.3	5.0	7.6	7.1	9.0	6.1	9.2	7.7
3	10.3	9.1	---	---	8.4	5.1	8.8	7.2	9.2	5.6	9.9	7.7
4	10.2	8.4	---	---	8.7	7.4	10.0	7.2	7.9	5.9	10.4	7.8
5	9.8	7.8	---	---	8.1	7.3	9.3	7.1	8.1	6.0	10.8	8.3
6	9.0	6.8	8.0	7.2	8.0	6.9	9.6	6.6	8.0	4.3	9.1	8.0
7	10.4	6.4	7.8	7.2	8.1	7.1	8.4	6.0	6.7	4.4	9.6	8.9
8	11.2	7.3	7.6	6.1	8.0	7.0	7.6	6.7	4.9	4.2	10.4	8.2
9	9.8	7.3	8.0	6.8	7.6	6.1	7.5	7.0	7.5	4.4	10.6	9.1
10	8.7	6.9	9.0	8.1	7.7	6.7	7.3	6.8	7.9	5.7	10.9	9.8
11	8.6	7.3	9.8	8.8	7.2	6.7	7.2	6.6	7.6	6.7	11.2	9.9
12	9.0	7.0	9.8	9.6	7.5	6.6	7.2	6.6	8.1	7.6	10.7	9.4
13	9.2	6.7	9.9	9.4	6.9	6.1	7.6	6.8	8.2	7.4	10.8	8.8
14	9.2	6.2	9.6	9.0	7.5	6.7	8.0	7.0	8.1	7.5	10.4	8.6
15	8.1	4.3	9.3	8.7	7.6	6.8	8.8	7.1	8.0	7.3	10.4	8.3
16	7.9	5.8	8.8	8.0	7.9	7.7	8.5	7.0	8.8	7.3	10.4	8.4
17	8.2	5.7	8.2	7.4	8.2	7.9	8.8	6.7	10.0	7.1	9.5	7.8
18	7.5	5.8	8.0	7.4	8.1	7.7	8.9	6.5	9.2	7.6	10.5	7.5
19	7.7	6.7	7.7	7.4	7.8	7.4	9.2	6.6	8.2	7.2	9.9	8.4
20	8.4	7.2	8.4	7.1	7.6	7.0	10.0	6.9	9.8	7.1	10.0	6.9
21	8.5	6.1	7.8	7.4	7.6	7.2	10.0	7.1	9.7	8.5	9.2	6.8
22	8.0	5.5	7.6	7.2	7.6	7.2	8.4	7.0	10.4	8.5	9.2	8.3
23	7.7	5.6	7.6	6.8	7.7	7.2	7.9	6.4	10.4	8.4	8.9	7.4
24	7.9	5.8	7.7	7.1	7.6	7.1	7.2	6.2	10.9	8.9	8.3	7.0
25	---	---	7.7	6.8	7.3	6.2	7.0	6.2	10.6	8.5	8.5	7.2
26	---	---	7.9	7.1	7.3	6.7	8.0	6.6	10.6	8.5	8.7	7.4
27	---	---	7.8	7.4	7.3	6.9	8.0	6.8	10.6	8.6	8.8	7.6
28	---	---	7.9	7.2	7.9	7.1	8.8	6.1	10.5	8.1	9.1	7.8
29	---	---	8.0	7.0	7.1	7.0	8.1	6.6	9.3	8.4	9.8	8.8
30	---	---	8.6	6.9	7.4	7.0	10.2	7.0	9.1	7.0	9.6	8.6
31	---	---	9.9	6.7	---	---	10.2	7.1	10.5	4.2	---	---

3-1595.1. HOCKING RIVER BELOW ATHENS, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	18.0	11.0	9.0	6.0	6.0	--	--	5.0	4.0	5.0	3.0
2	20.0	19.0	12.0	10.0	6.0	5.0	--	--	11.0	4.0	5.0	4.0
3	20.0	18.0	11.0	11.0	5.0	5.0	--	--	11.0	3.0	6.0	4.0
4	19.0	18.0	12.0	10.0	6.0	5.0	--	--	7.0	1.0	6.0	4.0
5	18.0	16.0	12.0	11.0	6.0	4.0	--	--	9.0	1.0	6.0	4.0
6	16.0	15.0	12.0	11.0	4.0	2.0	--	--	6.0	1.0	5.0	4.0
7	15.0	14.0	12.0	12.0	3.0	2.0	--	--	10.0	5.0	6.0	5.0
8	14.0	13.0	12.0	10.0	2.0	1.0	--	--	10.0	4.0	6.0	5.0
9	14.0	13.0	10.0	10.0	1.0	0.0	--	--	10.0	2.0	6.0	5.0
10	--	--	10.0	8.0	0.0	0.0	--	--	8.0	2.0	6.0	5.0
11	14.0	14.0	8.0	8.0	6.0	0.0	--	--	5.0	0.0	5.0	3.0
12	15.0	14.0	8.0	7.0	1.0	0.0	--	--	1.0	0.0	5.0	2.0
13	16.0	15.0	8.0	7.0	1.0	0.0	--	--	0.0	0.0	5.0	2.0
14	16.0	15.0	7.0	6.0	1.0	0.0	--	--	--	--	5.0	3.0
15	16.0	15.0	8.0	7.0	1.0	0.0	--	--	--	--	5.0	2.0
16	17.0	16.0	9.0	8.0	7.0	0.0	--	--	--	--	7.0	3.0
17	18.0	17.0	11.0	8.0	7.0	0.0	--	--	2.0	1.0	7.0	4.0
18	18.0	17.0	15.0	10.0	0.0	0.0	--	--	1.0	1.0	8.0	5.0
19	18.0	17.0	15.0	8.0	0.0	0.0	--	--	2.0	1.0	11.0	6.0
20	17.0	15.0	9.0	7.0	0.0	0.0	--	--	3.0	1.0	10.0	7.0
21	16.0	15.0	7.0	4.0	0.0	0.0	--	--	3.0	2.0	10.0	8.0
22	15.0	14.0	4.0	3.0	2.0	0.0	--	--	4.0	2.0	11.0	7.0
23	15.0	13.0	5.0	3.0	3.0	1.0	5.0	4.0	3.0	2.0	10.0	7.0
24	14.0	12.0	5.0	4.0	2.0	1.0	5.0	4.0	4.0	3.0	9.0	8.0
25	13.0	12.0	5.0	4.0	1.0	0.0	5.0	3.0	4.0	3.0	7.0	7.0
26	12.0	11.0	5.0	4.0	--	--	4.0	2.0	4.0	3.0	6.0	6.0
27	11.0	10.0	6.0	5.0	--	--	4.0	0.0	4.0	3.0	6.0	4.0
28	11.0	10.0	7.0	5.0	--	--	2.0	0.0	4.0	3.0	6.0	4.0
29	10.0	9.0	7.0	6.0	--	--	2.0	1.0	--	--	7.0	5.0
30	10.0	9.0	7.0	6.0	--	--	4.0	2.0	--	--	6.0	6.0
31	10.0	8.0	--	--	--	--	5.0	4.0	--	--	6.0	5.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	--	--	23.0	22.0	27.0	26.0	25.0	23.0	24.0	23.0
2	5.0	5.0	--	--	23.0	21.0	27.0	26.0	25.0	23.0	24.0	22.0
3	7.0	5.0	--	--	21.0	20.0	26.0	25.0	25.0	23.0	23.0	23.0
4	9.0	6.0	--	--	20.0	18.0	27.0	25.0	24.0	23.0	23.0	22.0
5	10.0	8.0	--	--	19.0	17.0	27.0	26.0	32.0	22.0	23.0	22.0
6	11.0	9.0	19.0	18.0	20.0	18.0	27.0	26.0	28.0	22.0	23.0	23.0
7	9.0	8.0	20.0	18.0	21.0	19.0	27.0	26.0	30.0	22.0	23.0	22.0
8	11.0	9.0	20.0	19.0	22.0	20.0	26.0	25.0	31.0	26.0	23.0	22.0
9	12.0	10.0	20.0	17.0	22.0	21.0	25.0	24.0	29.0	23.0	22.0	20.0
10	13.0	11.0	17.0	14.0	22.0	21.0	25.0	24.0	27.0	19.0	20.0	19.0
11	14.0	12.0	14.0	12.0	22.0	21.0	26.0	24.0	20.0	19.0	20.0	19.0
12	14.0	12.0	12.0	11.0	24.0	21.0	26.0	25.0	21.0	20.0	19.0	18.0
13	14.0	12.0	12.0	11.0	24.0	22.0	27.0	25.0	23.0	21.0	19.0	18.0
14	14.0	12.0	13.0	12.0	23.0	20.0	27.0	25.0	24.0	22.0	20.0	19.0
15	14.0	13.0	15.0	13.0	22.0	18.0	28.0	25.0	25.0	22.0	20.0	19.0
16	14.0	13.0	17.0	15.0	19.0	18.0	28.0	26.0	26.0	24.0	20.0	19.0
17	17.0	14.0	18.0	16.0	18.0	18.0	28.0	26.0	26.0	25.0	20.0	19.0
18	17.0	16.0	19.0	18.0	19.0	18.0	29.0	27.0	26.0	25.0	20.0	18.0
19	16.0	13.0	19.0	18.0	20.0	18.0	29.0	28.0	26.0	25.0	18.0	17.0
20	13.0	11.0	19.0	19.0	21.0	19.0	28.0	27.0	26.0	24.0	18.0	17.0
21	17.0	11.0	19.0	18.0	22.0	20.0	28.0	27.0	25.0	24.0	19.0	17.0
22	17.0	14.0	19.0	18.0	23.0	22.0	27.0	25.0	25.0	23.0	20.0	18.0
23	16.0	14.0	18.0	17.0	24.0	23.0	26.0	24.0	25.0	23.0	19.0	18.0
24	18.0	14.0	18.0	17.0	24.0	23.0	26.0	23.0	25.0	23.0	19.0	18.0
25	--	--	18.0	17.0	23.0	21.0	26.0	24.0	25.0	23.0	18.0	17.0
26	--	--	19.0	17.0	23.0	22.0	26.0	24.0	25.0	24.0	18.0	17.0
27	--	--	19.0	17.0	24.0	23.0	26.0	25.0	25.0	23.0	18.0	17.0
28	--	--	20.0	18.0	26.0	24.0	26.0	24.0	24.0	22.0	18.0	16.0
29	--	--	21.0	18.0	27.0	26.0	25.0	24.0	24.0	23.0	17.0	16.0
30	--	--	22.0	20.0	28.0	26.0	24.0	23.0	32.0	24.0	17.0	16.0
31	--	--	22.0	21.0	--	--	24.0	23.0	28.0	23.0	--	--

3-1599. OHIO RIVER AT NEW HAVEN, W. VA.

LOCATION.--Lat 38°58'01", long 81°55'18", Mason County, at raw water intake to Philip Sporn Plant of American Electric Power Service Company at New Haven, and at mile 241.6.
DRAINAGE AREA.--40,200 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1969.
Water temperatures: October 1967 to September 1969.
EXTREMES, 1967-69.--Specific conductance (1967-68): Maximum daily, 891 micromhos Sept. 17, 1968; minimum daily, 230 micromhos May 25, 1968.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	MEAN DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.								
04...	--	100	160	52	0	189	85	.8
25...	--	120	290	--	--	188	76	.6
30...	--	210	180	--	--	181	60	.7
NOV.								
11...	--	190	260	--	--	191	84	.7
15...	--	260	270	50	0	163	56	.8
30...	57000	530	670	--	--	66	32	.4
DEC.								
10...	58000	830	470	--	--	86	26	.2
18...	--	--	--	34	0	80	34	.4
28...	62000	330	570	--	--	105	36	.3
JAN.								
03...	90000	160	760	--	--	69	24	.2
13...	--	400	600	32	0	81	28	.3
21...	90000	710	610	--	--	94	40	.3
FEB.								
04...	160000	170	480	--	0	63	22	.3
10...	--	320	470	32	0	72	22	.2
28...	--	310	760	--	0	102	40	.4
MAR.								
01...	--	270	740	--	--	104	39	.3
19...	--	--	--	--	--	126	62	.4
26...	68000	370	820	42	0	132	41	.5
APR.								
02...	48000	310	290	--	--	125	34	.1
09...	120000	280	290	32	0	75	24	.1
11...	85000	930	240	--	--	65	22	.1
MAY								
07...	35000	200	150	42	0	86	35	.2
12...	120000	850	180	--	--	87	25	.2
26...	42000	380	180	--	--	87	41	.3
JUNE								
03...	--	130	50	--	--	76	34	.3
10...	--	90	70	60	0	88	44	.4
18...	--	270	80	--	--	117	57	.4
JULY								
01...	--	--	--	--	--	126	68	.5
12...	36000	1000	180	--	--	94	16	.4
22...	37000	540	150	64	0	101	54	.6
AUG.								
14...	--	--	--	--	--	84	26	.3
19...	--	1700	280	52	0	121	36	.4
27...	--	190	180	--	--	143	45	.4
SEPT.								
08...	--	300	280	--	--	134	40	.4
22...	--	220	180	30	0	139	54	.6
30...	--	120	200	--	--	151	70	.5

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT.								
01-31	0	0	30	20	20	0	0	0
NOV.								
01-30	0	10	40	10	60	0	0	0
DEC.								
01-31	0	10	40	0	40	0	0	0
JAN.								
01-31	0	0	10	0	30	0	0	0
FEB.								
01-28	0	0	10	0	50	0	0	0
MAR.								
01-31	0	0	0	0	50	0	0	0
APR.								
01-30	0	10	10	0	20	0	0	0
MAY								
01-31	0	0	10	0	20	0	0	0
JUNE								
01-30	0	0	0	20	20	0	0	0
JULY								
01-31	0	0	10	0	20	0	0	0
AUG.								
01-31	0	0	10	0	20	0	0	0
SEPT.								
01-30	0	0	10	0	20	0	0	0

3-1599. OHIO RIVER AT NEW HAVEN, W. VA.--Continued

EXTREMES, 1967-69--Continued
Water temperatures (1967-68): Maximum, 29°C on several days during July and August 1968; minimum, 2°C on many days during January and February 1968.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese were filtered clear when collected. Records of discharge are given for Ohio River at Pomeroy (drainage area 40,500 sq mi approximately).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NUN-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
04...	1.2	.06	452	232	190	756	7.0
25...	6.4	.09	--	216	--	878	7.0
30...	7.3	.10	--	206	--	658	7.6
NOV.							
11...	7.9	.10	--	220	--	767	7.4
15...	2.6	.23	376	192	151	620	7.7
30...	2.9	.04	--	142	--	397	7.3
DEC.							
10...	2.8	.05	--	106	--	324	7.4
18...	2.8	.08	204	110	82	363	7.1
28...	4.9	.05	--	140	--	426	7.4
JAN.							
03...	5.9	.04	--	105	--	297	6.8
13...	5.6	.08	200	116	90	345	7.4
21...	5.9	.05	--	140	--	423	7.5
FEB.							
04...	4.8	.03	--	96	--	277	7.6
10...	4.5	.00	176	108	82	300	7.1
28...	5.5	.01	--	149	--	437	7.1
MAR.							
01...	6.1	.01	--	150	--	432	7.5
19...	7.1	.00	--	186	--	573	7.1
26...	3.3	.06	298	160	126	496	7.2
APR.							
02...	5.0	.00	--	148	--	454	6.7
09...	4.6	.10	182	106	80	317	7.3
11...	4.3	.03	--	98	--	281	7.1
MAY							
07...	3.8	.10	232	136	102	378	7.5
12...	4.6	.18	--	130	--	349	7.6
26...	4.6	.06	--	150	--	414	7.3
JUNE							
03...	4.6	.05	--	130	--	389	7.2
10...	4.4	.07	313	155	106	458	7.1
18...	4.5	.03	--	181	--	544	7.0
JULY							
01...	4.8	.00	--	218	--	646	7.2
12...	5.8	.07	--	130	--	363	7.8
22...	4.1	.10	344	172	120	516	7.5
AUG.							
14...	6.4	.00	--	117	--	354	7.0
19...	8.1	.00	268	171	128	485	6.6
27...	8.1	.00	--	202	--	578	7.3
SEPT.							
08...	12	.07	--	170	--	481	7.4
22...	8.4	.03	308	164	140	531	6.8
30...	11	.05	--	198	--	606	7.2

3-1599. OHIO RIVER AT NEW HAVEN, W. VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	740	628	--	--	305	432	453	--	--	646	452	--
2.....	740	667	392	366	--	--	454	--	391	607	454	564
3.....	759	--	398	297	283	445	409	352	389	563	--	527
4.....	756	726	400	299	277	451	--	--	390	--	--	516
5.....	762	726	380	--	288	461	372	363	399	501	468	504
6.....	--	713	378	315	298	477	--	363	416	--	467	--
7.....	766	716	346	332	295	479	297	378	423	527	488	--
8.....	786	734	--	329	300	486	--	391	--	566	494	481
9.....	794	716	330	318	--	--	317	394	444	--	--	496
10.....	765	--	324	318	300	475	297	389	458	387	--	517
11.....	787	767	324	--	313	477	281	--	--	368	412	522
12.....	787	737	336	--	298	487	--	349	--	363	--	509
13.....	--	679	336	345	316	498	--	363	444	--	357	508
14.....	738	644	336	348	318	520	304	387	--	--	354	--
15.....	742	620	--	351	327	538	304	359	--	406	360	508
16.....	756	604	327	364	--	--	--	368	--	419	--	541
17.....	764	--	342	381	350	556	--	372	526	452	--	583
18.....	763	612	363	385	350	558	320	--	544	468	456	595
19.....	712	528	366	--	--	573	297	364	536	--	485	--
20.....	--	616	342	418	--	--	--	395	--	--	--	--
21.....	732	522	346	423	--	--	297	396	--	488	500	--
22.....	792	519	--	423	--	573	335	404	--	516	--	531
23.....	799	484	363	382	--	--	338	390	530	517	--	571
24.....	768	--	392	381	--	542	--	377	527	521	--	581
25.....	878	--	--	--	--	526	351	--	538	509	515	582
26.....	718	430	374	--	--	496	--	414	538	--	542	587
27.....	--	421	402	368	--	477	--	394	542	--	578	583
28.....	695	--	426	342	437	--	315	397	--	529	567	--
29.....	--	413	--	307	--	516	315	386	--	536	569	600
30.....	658	397	376	309	--	--	323	--	--	485	572	606
31.....	--	--	363	338	--	556	--	--	--	468	--	--
AVERAGE	758	609	362	351	--	--	--	--	--	--	--	--

3-1599. OHIO RIVER AT NEW HAVEN, W. VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	23	23	23	22	22	--	20	20	20	21	21	20	--	20	21	21	21	21	21	--	20	20	20	20	19	18	--	20	--	16	--	21
NOVEMBER.	16	21	--	16	16	16	15	14	14	--	14	--	12	12	12	12	--	12	12	11	8	8	8	--	--	8	8	--	8	8	--	--
DECEMBER.	--	8	8	8	8	7	7	--	6	4	4	4	4	4	--	3	3	3	3	3	3	--	3	3	--	2	2	2	--	2	2	4
JANUARY..	--	1	1	1	--	0	0	0	1	1	--	--	1	1	1	1	2	4	--	2	2	3	3	4	--	--	3	3	3	4	4	--
FEBRUARY.	4	--	5	4	4	4	4	4	--	4	3	4	3	3	5	--	7	7	--	--	--	--	--	--	--	--	--	6	--	--	--	--
MARCH....	6	--	6	6	6	7	7	8	--	7	7	6	8	8	6	--	7	7	7	--	--	8	--	9	9	9	9	--	9	--	8	--
APRIL....	8	9	9	--	10	--	10	--	11	11	11	--	--	14	14	--	--	16	16	--	16	14	14	--	13	--	--	14	14	14	--	--
MAY.....	--	--	16	--	17	18	19	19	19	19	--	18	17	17	17	18	18	--	18	19	19	20	21	21	--	21	21	21	22	--	--	--
JUNE.....	--	24	23	23	23	23	24	--	24	24	--	--	25	--	--	--	24	26	26	--	--	--	25	26	26	26	27	--	--	--	--	--
JULY.....	28	28	28	--	29	--	29	27	--	26	26	28	--	--	26	27	27	28	--	--	28	28	28	28	28	--	--	28	28	28	28	--
AUGUST...	27	28	--	--	27	27	27	27	--	--	26	--	26	26	26	--	--	27	28	--	28	--	--	--	28	27	27	27	27	27	--	--
SEPTEMBER	--	27	28	28	27	--	--	26	26	26	26	26	26	--	26	25	25	25	--	--	--	24	24	23	23	23	23	--	23	24	--	--

3-2013. KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, W. VA.

LOCATION.--Lat 38°31'32", long 81°54'40", Putnam County, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Kanawha Valley Power Company intake at Winfield Dam, 1 mile downstream from Winfield Toll Bridge.
DRAINAGE AREA.--11,809 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1956 to September 1969.
Water temperatures: October 1956 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 672 micromhos Oct. 2; minimum daily, 118 micromhos Aug. 23.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
02...	0800	180	160	--	--	110	98	.3
17...	0800	250	40	34	0	89	76	.2
25...	0800	290	30	--	--	40	24	.2
NOV.								
09...	0800	340	170	--	--	63	68	.2
14...	0800	210	70	21	0	50	9.0	.2
22...	0800	320	100	--	--	29	10	.0
DEC.								
06...	0800	330	130	--	--	56	58	.4
10...	0800	290	120	28	0	52	26	.1
27...	0800	240	100	--	--	35	16	.1
JAN.								
19...	0800	550	40	--	--	67	64	.0
22...	0800	540	50	34	0	51	18	.0
23...	0800	420	40	--	--	38	12	.2
FEB.								
13...	0800	310	300	26	0	36	16	.0
17...	0800	220	70	26	0	38	20	.1
28...	0800	230	140	28	0	61	44	.1
MAR.								
05...	0800	290	120	--	--	54	43	.1
14...	0800	200	70	40	0	44	31	.0
27...	0800	590	100	--	--	23	11	.1
APR.								
17...	0800	200	80	--	--	52	32	.2
21...	0800	140	120	36	0	32	16	.1
27...	0800	140	50	--	--	32	14	.0
MAY								
15...	0800	200	80	--	--	32	12	.2
21...	0745	170	130	20	0	49	25	.2
31...	0745	100	110	--	--	66	41	.3
JUNE								
02...	0800	110	160	30	0	72	54	.4
08...	0800	100	160	--	--	74	100	.3
21...	0745	140	180	--	--	50	24	.2
JULY								
14...	0800	610	230	--	--	34	12	.0
25...	0800	100	190	--	--	68	71	.1
29...	0800	100	160	34	0	58	36	.1
AUG.								
17...	0800	300	120	--	--	49	83	.1
23...	0800	--	220	--	--	22	7.7	.1
31...	0750	270	190	22	0	47	50	.2
SEPT.								
03...	0800	150	120	30	0	59	52	.6
11...	0800	180	150	--	--	59	26	.2
20...	0745	200	150	--	--	61	84	.3

3-2013. KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, W. VA.--Continued

EXTREMES, 1968-69--Continued
Water temperatures: Maximum, 31°C July 28-30; minimum, 2°C Jan. 4-18.
EXTREMES, 1956-69.--Specific conductance: Maximum daily, 2,700 micromhos Apr. 21, 1961; minimum daily, 77 micromhos Jan. 31, 1957.
Water temperatures: Maximum, 33°C July 24, 1964; minimum, freezing point Feb. 14, 1958, Mar. 12, 1960.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Samples for iron and manganese were filtered clear when collected. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
02...	16	.29	--	196	--	672	6.3
17...	4.9	.33	332	154	126	528	7.2
25...	7.8	.18	--	100	--	269	6.8
NOV.							
09...	9.7	.28	--	120	--	448	6.3
14...	4.6	.13	142	68	51	262	6.6
22...	5.5	.08	--	58	--	165	7.0
DEC.							
06...	7.9	.21	--	118	--	394	6.4
10...	9.4	.14	160	82	59	272	7.4
27...	3.6	.11	--	56	--	185	6.8
JAN.							
19...	9.2	.19	--	110	--	433	7.0
22...	3.4	.09	156	82	54	245	7.8
23...	3.0	.03	--	55	--	169	7.6
FEB.							
13...	4.1	.05	--	58	36	172	7.4
17...	4.8	.08	112	65	44	202	6.6
28...	6.2	.20	--	105	82	348	6.7
MAR.							
05...	12	.11	--	102	--	339	6.5
14...	10	.05	158	86	53	281	7.1
27...	5.8	.16	--	48	--	134	7.3
APR.							
17...	8.5	.17	--	88	--	304	6.2
21...	6.4	.11	138	72	42	218	6.6
27...	4.7	.06	--	58	--	168	6.2
MAY							
15...	5.1	.07	--	59	--	170	6.9
21...	8.2	.15	158	70	54	256	6.4
31...	13	.12	--	101	--	368	6.5
JUNE							
02...	14	.15	290	119	94	437	6.5
08...	15	.24	--	173	--	608	6.4
21...	11	.17	--	100	--	292	6.8
JULY							
14...	5.7	.05	--	50	--	166	6.4
25...	16	.26	--	144	--	484	5.7
29...	13	.21	204	103	75	345	6.0
AUG.							
17...	14	.12	--	157	--	464	6.5
23...	7.5	.10	--	45	--	118	6.6
31...	13	.14	238	96	78	334	6.4
SEPT.							
03...	8.4	.19	246	106	82	388	7.4
11...	7.6	.09	--	92	--	317	7.4
20...	13	.12	--	146	--	522	6.5

3-2013. KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, W. VA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	651	350	272	193	207	330	184	209	436	325	369	365
2.....	672	355	268	188	226	318	197	227	437	342	403	374
3.....	660	392	308	195	195	327	209	228	440	359	402	388
4.....	651	359	280	221	173	324	220	250	456	385	403	399
5.....	563	355	336	233	183	339	236	254	468	389	361	409
6.....	530	348	394	242	173	321	225	257	466	407	352	438
7.....	656	--	255	273	199	318	239	259	504	458	347	481
8.....	620	405	240	277	196	331	213	279	608	442	398	441
9.....	636	448	260	318	199	334	217	302	473	442	402	389
10.....	590	278	272	339	201	337	214	349	451	443	403	325
11.....	558	245	342	384	188	314	226	209	454	--	428	317
12.....	517	234	366	392	175	295	236	173	482	283	294	322
13.....	506	236	372	349	172	269	253	172	490	245	251	322
14.....	524	262	339	339	192	281	274	178	490	166	267	340
15.....	529	288	289	359	177	256	294	170	505	186	--	350
16.....	544	286	278	365	206	263	302	174	436	198	446	379
17.....	528	326	298	387	202	273	304	178	430	202	464	373
18.....	536	225	266	408	210	273	304	197	461	233	418	411
19.....	510	183	223	433	250	294	242	220	379	278	362	460
20.....	566	252	259	394	264	328	232	228	304	290	220	522
21.....	321	169	291	399	281	298	218	256	292	305	131	468
22.....	300	165	291	245	268	225	210	298	309	316	132	452
23.....	311	180	278	169	307	186	193	265	315	420	118	452
24.....	272	185	268	182	302	183	226	--	332	411	129	418
25.....	269	208	211	182	318	216	193	273	351	484	157	414
26.....	296	226	188	185	318	180	169	330	415	356	186	350
27.....	307	248	185	185	315	134	168	305	499	342	208	380
28.....	333	269	199	189	348	138	175	330	329	348	236	375
29.....	341	270	233	205	--	142	185	359	309	345	292	357
30.....	357	257	236	224	--	150	198	359	307	358	302	388
31.....	362	--	211	210	--	177	--	368	--	354	334	--
AVERAGE	484	276	274	279	230	263	225	255	420	337	307	395

MAXIMUM VALUE = 672 MINIMUM VALUE = 118

3-2013. KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, W. VA.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVER-AGE
OCTOBER..	24	24	24	24	23	23	23	23	22	24	21	21	21	21	21	21	22	22	22	22	21	21	19	18	18	18	18	17	16	16	16	21
NOVEMBER.	16	16	16	16	16	16	--	16	16	16	14	13	13	12	12	12	12	12	10	10	9	9	9	9	9	9	9	9	9	9	--	12
DECEMBER.	9	9	9	9	9	9	9	8	7	7	6	6	6	6	6	4	3	4	4	4	4	4	4	4	4	3	3	3	3	4	4	6
JANUARY..	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	5	4	3	4	6	4	4	4	4	4	6	3
FEBRUARY.	7	7	8	7	7	7	7	7	7	7	6	4	4	4	4	4	4	4	4	4	4	4	5	6	6	7	6	6	--	--	--	6
MARCH....	7	7	7	7	7	7	7	8	8	8	7	8	6	6	6	6	7	7	7	7	8	9	9	9	9	9	8	7	7	7	7	7
APRIL....	7	8	8	9	10	11	12	13	13	14	14	16	16	17	17	17	17	18	18	16	16	16	14	14	13	13	13	14	15	15	--	14
MAY.....	15	15	15	16	17	18	18	19	20	21	19	18	16	16	16	17	18	18	19	26	21	21	22	--	22	22	22	23	23	23	24	19
JUNE.....	26	26	25	19	20	19	20	26	27	26	26	27	27	28	28	28	28	28	28	27	27	26	26	26	26	26	28	27	28	28	--	26
JULY.....	29	29	29	29	30	30	29	29	29	29	--	28	27	28	29	24	24	24	26	27	27	27	27	29	30	30	30	31	31	31	29	28
AUGUST...	29	29	29	28	28	28	28	29	29	29	28	27	27	27	--	27	27	27	27	27	23	24	22	22	23	23	23	23	24	24	26	26
SEPTEMBER	26	27	27	27	27	27	27	28	28	28	27	26	25	26	24	24	24	24	24	24	24	24	24	24	24	23	23	23	23	23	--	25

MAXIMUM VALUE = 31 MINIMUM VALUE = 2

3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO

LOCATION.--Lat 38°52'31", long 82°21'18", on line between secs. 25 and 26, T. 6N., R. 16W., Gallia County, at gaging station at bridge on U.S. Highway 35 in Adamsville, 1.3 miles downstream from Indian Creek.
DRAINAGE AREA.--585 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1951 to September 1954, October 1964 to September 1969.
Water temperatures: October 1951 to September 1954, October 1964 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,160 micromhos Nov. 21, 22; minimum, 210 micromhos Aug. 10.
Water temperatures: Maximum, 26°C on several days during June and July; minimum, freezing point on many days during December and January.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.						
14...	1900	28	0	0	286	85
30...	1000	23	0	0	268	78
NOV.						
14...	0900	70	0	0	270	128
18...	1700	167	4	0	196	66
DEC.						
06...	1430	446	0	0	270	72
29...	1700	615	1	0	145	26
JAN.						
15...	1430	82	0	0	207	68
24...	1300	712	2	0	127	25
FEB.						
15...	1700	525	2	0	121	23
20...	1400	308	0	0	141	28
MAR.						
01...	1200	182	0	0	163	40
28...	1400	995	0	0	174	92
APR.						
13...	1700	314	0	0	143	36
21...	1600	2040	0	0	89	16
MAY						
16...	1100	678	0	0	113	18
31...	0900	130	0	0	134	36
JUNE						
08...	1800	137	0	0	160	41
20...	1800	240	0	0	131	28
JULY						
13...	2000	492	0	0	129	30
23...	2000	75	0	0	182	82
AUG.						
12...	1230	1190	2	0	84	35
18...	1530	96	0	0	126	45
SEPT.						
01...	1700	44	0	0	168	59
24...	1000	58	0	0	253	82

3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO--Continued

EXTREMES, 1951-54, 1964-69.--Specific conductance: Maximum, 2,930 micromhos Nov. 20, 1964; minimum, 115 micromhos Mar. 23, 1952.
Water temperatures: Maximum, 29°C June 16, 1952; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since May 1967. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Acidity values determined to pH 7.0.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	TOTAL ACIDITY AS H+ (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.							
14...	.5	.6	518	242	242	1.6	923
30...	.4	.1	486	229	229	1.1	854
NOV.							
14...	.3	1.5	638	265	265	1.1	995
18...	.2	2.6	434	210	207	--	651
DEC.							
06...	.4	1.4	556	240	240	1.4	809
29...	.2	1.2	262	145	144	.4	412
JAN.							
15...	.3	3.2	424	154	154	.7	656
24...	.2	1.7	216	114	113	.3	377
FEB.							
15...	.2	1.4	218	111	110	.3	358
20...	.2	1.4	270	124	124	.4	422
MAR.							
01...	.3	1.4	312	140	140	.6	497
28...	.4	1.2	452	178	178	1.0	694
APR.							
13...	.2	.5	254	130	130	.6	440
21...	.1	.7	198	88	88	.2	279
MAY							
16...	.0	.5	194	116	116	.2	327
31...	.0	1.1	256	130	130	.3	430
JUNE							
08...	.6	3.1	326	152	152	.6	500
20...	.5	5.3	260	127	127	.4	412
JULY							
13...	.2	5.1	254	125	125	.4	409
23...	.5	4.4	408	190	190	.2	681
AUG							
12...	.1	7.2	200	100	98	--	334
18...	.0	2.9	280	140	140	.4	477
SEPT.							
01...	.2	3.1	354	166	166	.5	578
24...	.4	3.6	504	236	236	.9	824

3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	750	700	930	880	---	---	---	---	---	---	500	420
2	780	720	930	880	---	---	490	430	---	---	470	460
3	750	690	920	730	---	---	470	430	---	---	500	470
4	770	700	730	620	---	---	480	---	---	---	510	500
5	980	730	700	630	---	---	---	---	290	---	540	500
6	800	760	750	700	980	810	---	---	360	290	550	540
7	880	600	760	690	1070	650	510	470	360	340	550	520
8	1060	710	720	670	670	650	560	510	400	340	550	530
9	880	710	1150	720	660	550	560	550	400	---	550	540
10	990	720	740	600	710	570	570	540	350	---	570	550
11	750	710	600	560	700	660	590	570	390	340	580	570
12	870	750	560	530	670	640	610	570	370	310	580	570
13	970	870	920	560	710	640	630	600	310	290	590	570
14	950	890	1000	920	720	710	650	630	350	300	590	580
15	900	850	1000	920	710	660	670	650	370	330	610	590
16	920	870	920	740	680	640	670	660	390	360	610	600
17	890	880	780	770	670	650	660	560	390	370	610	600
18	---	---	870	650	680	670	560	---	400	390	600	590
19	---	---	830	680	690	600	---	---	410	400	610	600
20	---	---	810	630	650	570	620	460	420	410	620	600
21	---	---	1160	780	610	550	460	340	440	410	630	620
22	---	---	1160	950	590	430	640	370	480	430	630	620
23	---	---	950	900	520	360	550	330	470	440	640	630
24	---	---	---	---	590	340	370	300	480	450	640	540
25	---	---	---	---	610	380	450	330	500	450	570	520
26	---	---	---	---	610	370	530	410	500	470	620	500
27	---	---	---	---	500	350	550	530	490	480	740	470
28	830	810	---	---	390	---	570	440	490	490	690	460
29	850	810	---	---	---	---	440	---	---	---	460	420
30	870	850	---	---	---	---	---	---	---	---	420	400
31	880	860	---	---	---	---	---	---	---	---	420	400

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	420	410	350	340	450	440	470	460	760	600	590	560
2	420	410	370	340	460	440	480	470	760	660	620	590
3	420	410	380	370	450	430	490	480	780	660	640	610
4	420	420	410	380	450	430	510	490	760	730	680	630
5	440	400	420	410	480	450	510	500	910	740	640	610
6	400	360	430	420	510	470	530	500	1000	910	670	620
7	410	360	430	420	520	490	560	390	1000	950	620	470
8	460	410	430	390	510	500	530	390	950	900	700	530
9	520	460	390	340	500	490	540	320	980	820	640	600
10	530	470	410	330	520	500	530	470	980	210	680	590
11	470	420	380	300	530	480	520	460	490	280	680	590
12	430	400	320	260	570	510	530	440	510	300	670	610
13	440	420	280	270	570	550	520	350	670	370	750	650
14	440	430	310	270	580	330	400	340	410	370	760	730
15	440	380	290	280	470	220	470	300	430	410	760	730
16	380	350	330	290	500	270	500	300	450	430	790	760
17	390	370	360	330	500	320	530	500	470	450	830	780
18	460	280	360	350	780	470	590	520	480	470	810	620
19	280	230	370	350	510	410	650	590	490	420	880	740
20	260	240	370	350	420	410	690	650	600	340	900	840
21	280	250	410	370	440	420	710	690	400	340	840	760
22	270	240	470	350	460	440	720	680	480	400	850	820
23	280	270	480	440	---	---	690	650	420	370	860	820
24	290	280	460	380	---	---	740	690	440	350	830	800
25	340	290	380	360	450	440	810	740	470	440	810	770
26	330	320	380	360	470	440	830	710	480	470	850	790
27	340	320	390	380	520	460	740	710	500	480	890	850
28	340	320	410	390	580	520	720	650	510	500	940	890
29	330	320	420	410	560	480	650	540	530	510	940	900
30	340	320	440	420	480	460	710	540	550	520	900	870
31	---	---	440	430	---	---	760	710	570	550	---	---

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3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	4.7
2	---	---	---	---	---	---	---	---	---	---	---	5.4
3	---	---	---	---	---	---	---	---	---	---	---	5.4
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	4.7	4.0	---	---	---	---	---	---	---	---	---	---
13	4.7	4.6	---	---	---	---	---	---	---	---	---	---
14	4.7	4.6	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	4.8	4.6
20	---	---	---	---	---	---	---	---	---	---	4.7	4.4
21	---	---	---	---	---	---	---	---	---	---	4.6	4.3
22	---	---	---	---	---	---	---	---	---	---	4.7	4.3
23	---	---	---	---	---	---	---	---	---	---	4.7	4.4
24	---	---	---	---	---	---	---	---	---	---	4.9	4.5
25	---	---	---	---	---	---	---	---	---	---	4.8	4.6
26	---	---	---	---	---	---	---	---	---	---	4.7	4.6
27	---	---	---	---	---	---	---	---	---	---	4.7	4.6
28	---	---	---	---	---	---	---	---	---	---	4.7	4.6
29	---	---	---	---	---	---	---	---	---	---	4.7	4.6
30	---	---	---	---	---	---	---	---	---	---	4.6	4.6
31	---	---	---	---	---	---	---	---	---	---	4.7	4.6

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.7	4.6	4.5	4.3	4.5	4.2	4.3	4.1	---	---	4.8	4.4
2	4.7	4.7	4.6	4.3	4.5	4.3	4.7	4.2	---	---	4.8	4.5
3	4.8	4.7	4.5	4.1	4.7	4.5	4.6	4.5	---	---	4.9	4.7
4	4.8	4.7	4.1	3.9	4.8	4.5	4.7	4.5	---	---	4.9	4.6
5	4.8	4.7	4.4	4.0	4.7	4.4	4.7	4.5	---	---	---	---
6	4.7	4.7	4.3	3.9	4.8	4.3	4.7	4.5	---	---	---	---
7	4.7	4.6	4.2	3.8	4.6	4.3	4.6	4.4	---	---	---	---
8	4.7	4.6	4.3	4.0	4.6	4.1	4.6	4.5	---	---	---	---
9	4.8	4.7	4.7	4.3	4.5	4.2	4.7	4.5	---	---	---	---
10	4.9	4.8	4.7	4.5	4.6	4.4	4.7	4.6	---	---	---	---
11	4.8	4.4	4.8	4.7	4.7	4.4	4.6	4.5	---	---	---	---
12	4.5	4.4	4.9	4.7	4.6	4.4	4.6	4.5	---	---	---	---
13	---	---	5.0	4.8	---	---	4.6	4.5	4.9	4.6	---	---
14	4.3	4.2	4.9	4.6	4.9	4.3	4.5	4.4	5.0	4.5	---	---
15	4.4	4.2	4.9	4.4	4.9	4.4	4.5	4.4	5.1	4.4	---	---
16	4.4	4.3	4.7	4.3	4.7	4.4	4.5	4.3	4.7	4.4	---	---
17	4.4	4.3	4.4	4.2	4.7	4.4	4.5	4.4	5.0	4.3	4.0	3.9
18	---	---	4.5	4.2	4.6	4.5	4.6	4.3	4.7	4.4	4.9	4.0
19	---	---	4.6	4.4	4.7	4.4	4.6	4.5	5.4	4.2	4.6	3.9
20	---	---	4.5	4.3	4.7	4.2	4.6	4.5	4.6	3.6	4.0	3.9
21	---	---	4.5	4.2	4.5	4.2	4.6	4.5	4.6	4.3	4.6	4.0
22	---	---	4.6	4.1	4.7	4.4	4.6	4.5	4.9	4.2	4.2	3.8
23	---	---	4.5	4.3	---	---	4.6	4.5	5.1	4.3	3.9	3.7
24	4.6	4.5	4.6	4.3	---	---	4.7	4.6	5.1	4.5	4.0	3.9
25	4.6	4.4	4.7	4.4	4.6	4.5	4.7	4.6	5.2	4.4	4.0	3.9
26	4.6	4.3	4.6	4.3	4.7	4.4	4.6	4.5	4.8	4.4	4.3	4.0
27	4.5	4.1	4.7	4.3	4.6	4.4	4.5	4.4	5.0	4.4	4.2	3.8
28	4.2	4.1	4.7	4.3	4.4	4.2	4.4	4.3	5.3	4.5	4.0	3.8
29	4.4	4.1	4.6	4.2	4.4	4.2	4.3	4.2	5.2	4.8	4.0	3.7
30	4.5	4.3	4.5	4.2	4.4	4.1	---	---	5.1	4.8	4.3	3.7
31	---	---	4.5	4.2	---	---	---	---	5.0	4.2	---	---

3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.8	5.9	7.6	7.3	---	---	11.4	10.0	11.7	11.5	11.2	11.0
2	6.2	6.0	7.3	7.0	---	---	11.4	9.1	11.5	11.2	11.8	11.2
3	6.4	6.2	7.1	6.6	---	---	11.4	10.9	11.2	11.2	11.8	11.2
4	6.5	6.2	6.8	6.5	---	---	---	---	11.4	11.2	11.6	11.2
5	6.5	6.2	6.8	6.5	---	---	---	---	11.7	11.4	11.0	11.4
6	6.5	6.3	6.7	6.5	---	---	---	---	11.8	11.5	10.6	11.5
7	6.3	5.9	6.5	6.3	---	---	---	---	---	---	10.3	---
8	6.6	6.2	6.7	6.3	---	---	---	---	---	---	10.3	---
9	6.5	6.2	7.0	6.6	---	---	---	---	---	---	10.2	---
10	6.3	6.0	7.2	6.9	---	---	---	---	---	---	10.5	---
11	6.4	6.2	7.4	7.1	---	---	---	---	---	---	10.9	10.5
12	6.2	6.0	7.4	7.3	---	---	---	---	---	---	11.1	10.9
13	6.0	5.8	7.6	7.3	---	---	---	---	---	---	11.2	11.0
14	5.9	5.7	7.7	7.5	---	---	---	---	---	---	11.2	11.0
15	5.8	5.6	7.6	7.3	---	---	---	---	---	---	11.3	11.0
16	5.7	5.5	7.3	7.0	---	---	---	---	---	---	11.2	11.0
17	5.6	5.4	7.2	7.0	---	---	---	---	---	---	11.0	10.5
18	---	---	7.0	6.9	---	---	---	---	---	---	10.5	10.0
19	---	---	7.2	6.9	---	---	---	---	---	---	10.0	9.1
20	---	---	7.4	7.1	---	---	13.1	13.0	12.6	11.2	9.1	8.8
21	---	---	7.4	7.3	---	---	13.6	13.1	11.3	10.8	8.8	8.7
22	---	---	7.5	7.3	---	---	13.5	13.1	15.0	10.7	8.9	8.7
23	---	---	7.5	7.4	---	---	13.1	12.8	15.0	11.0	8.9	8.6
24	---	---	---	---	---	---	12.8	12.7	11.1	10.9	8.6	8.2
25	---	---	---	---	---	---	12.8	10.3	10.9	10.9	8.6	8.2
26	---	---	---	---	12.2	11.1	12.9	12.8	11.1	10.9	9.0	8.6
27	---	---	---	---	12.0	11.8	13.1	12.8	11.2	11.1	9.4	9.0
28	7.4	7.3	---	---	11.8	11.4	13.0	12.7	11.5	11.2	9.5	9.4
29	7.3	7.2	---	---	11.5	11.3	13.0	12.8	---	---	9.4	9.3
30	7.5	7.3	---	---	11.3	11.2	12.8	12.0	---	---	9.4	9.3
31	7.6	7.4	---	---	11.6	11.2	12.0	11.7	---	---	9.5	9.3

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.3	8.8	6.6	6.3	5.9	5.3	5.5	5.2	6.5	6.0	6.3	5.8
2	8.8	8.1	6.4	6.3	5.3	5.1	5.5	5.4	6.2	5.8	6.2	5.7
3	8.1	7.5	6.3	6.0	5.8	5.2	5.4	5.3	6.5	5.6	6.1	5.9
4	7.5	6.8	6.0	5.8	6.0	5.8	5.3	5.1	6.5	5.7	6.0	5.7
5	6.8	6.3	5.9	5.7	6.1	5.8	5.1	4.9	6.2	5.7	---	---
6	6.7	6.3	5.8	5.7	5.9	5.5	5.0	4.8	6.3	5.6	---	---
7	6.5	6.2	5.7	5.7	5.7	5.5	5.1	3.8	6.5	5.6	---	---
8	6.2	6.1	5.7	5.5	5.5	5.2	5.1	4.2	6.2	5.5	---	---
9	6.1	5.8	6.2	5.5	5.5	5.2	5.6	5.1	6.0	5.4	---	---
10	5.8	5.6	6.7	6.2	5.7	5.4	5.6	5.3	6.3	5.2	---	---
11	5.7	5.6	7.1	6.7	5.6	5.4	5.6	5.2	7.1	6.3	---	---
12	5.8	5.7	7.5	7.1	5.6	5.3	5.8	5.1	7.2	6.8	---	---
13	5.7	5.5	7.6	7.5	5.8	5.3	5.9	5.4	6.9	6.6	---	---
14	5.6	5.5	7.6	7.6	5.7	4.0	5.9	5.5	6.7	6.1	---	---
15	5.5	5.3	7.6	7.4	5.1	4.2	6.1	5.8	6.1	6.0	---	---
16	5.3	5.1	7.4	7.2	5.7	5.1	6.1	5.7	---	---	---	---
17	5.1	4.9	7.2	7.1	6.2	5.7	5.9	5.7	---	---	---	---
18	5.3	4.9	7.2	7.1	6.2	5.9	5.9	5.5	---	---	---	---
19	5.8	5.3	7.3	7.1	5.9	5.6	5.6	5.2	5.8	5.3	---	---
20	6.0	5.8	7.4	6.9	5.6	5.5	5.4	5.0	6.1	5.7	---	---
21	6.2	6.0	7.2	6.9	5.6	5.5	6.1	5.1	6.5	5.9	---	---
22	6.3	6.1	7.4	7.2	5.6	5.3	5.8	5.4	7.1	5.9	---	---
23	6.4	6.2	7.3	7.0	---	---	6.0	5.2	7.8	7.1	---	---
24	6.5	6.4	7.1	7.0	---	---	6.4	5.4	7.6	7.2	---	---
25	6.5	6.3	7.1	6.8	6.6	6.4	6.2	5.4	7.5	6.9	---	---
26	6.5	6.2	7.3	6.8	6.9	6.5	6.4	5.7	6.9	6.6	---	---
27	6.3	6.0	7.2	6.9	6.6	6.2	6.5	5.7	6.8	6.4	---	---
28	6.1	6.0	7.0	6.6	6.2	5.8	6.5	5.7	7.1	6.6	---	---
29	6.3	6.1	6.6	6.2	5.9	5.6	6.5	5.9	6.8	6.4	---	---
30	6.5	6.3	6.2	6.0	5.8	5.4	6.7	6.1	6.5	6.2	---	---
31	---	---	6.2	5.9	---	---	6.4	6.0	6.4	6.0	---	---

3-2020. RACCOON CREEK AT ADAMSVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	16.0	11.0	8.0	--	--	2.0	0.0	4.0	4.0	4.0	3.0
2	18.0	17.0	11.0	10.0	--	--	1.0	0.0	4.0	4.0	4.0	3.0
3	18.0	17.0	12.0	11.0	--	--	1.0	0.0	5.0	4.0	4.0	3.0
4	17.0	15.0	12.0	11.0	--	--	1.0	--	5.0	3.0	4.0	3.0
5	15.0	12.0	12.0	11.0	--	--	--	--	3.0	3.0	4.0	3.0
6	13.0	12.0	12.0	12.0	4.0	4.0	--	--	3.0	2.0	4.0	3.0
7	12.0	12.0	13.0	12.0	4.0	3.0	1.0	0.0	3.0	3.0	4.0	3.0
8	13.0	12.0	12.0	11.0	3.0	2.0	1.0	0.0	3.0	3.0	4.0	3.0
9	13.0	12.0	11.0	9.0	2.0	1.0	1.0	0.0	4.0	3.0	4.0	4.0
10	13.0	13.0	9.0	8.0	1.0	1.0	0.0	0.0	3.0	2.0	4.0	3.0
11	13.0	13.0	8.0	6.0	1.0	1.0	0.0	0.0	3.0	2.0	3.0	2.0
12	14.0	13.0	7.0	6.0	1.0	1.0	0.0	0.0	2.0	2.0	3.0	1.0
13	15.0	14.0	6.0	6.0	3.0	1.0	0.0	0.0	2.0	2.0	3.0	1.0
14	16.0	14.0	6.0	5.0	2.0	1.0	0.0	0.0	2.0	1.0	3.0	2.0
15	16.0	15.0	7.0	6.0	1.0	1.0	0.0	0.0	1.0	1.0	4.0	2.0
16	17.0	16.0	9.0	7.0	--	--	1.0	0.0	1.0	1.0	4.0	2.0
17	17.0	17.0	9.0	8.0	--	--	0.0	0.0	2.0	1.0	6.0	3.0
18	--	--	9.0	8.0	--	--	0.0	0.0	3.0	2.0	6.0	4.0
19	--	--	9.0	7.0	--	--	0.0	0.0	3.0	2.0	7.0	4.0
20	--	--	7.0	6.0	1.0	1.0	1.0	0.0	3.0	2.0	9.0	6.0
21	--	--	6.0	5.0	1.0	1.0	1.0	0.0	3.0	2.0	9.0	8.0
22	--	--	5.0	4.0	3.0	1.0	1.0	0.0	3.0	2.0	8.0	7.0
23	--	--	5.0	4.0	3.0	2.0	1.0	0.0	3.0	3.0	9.0	7.0
24	--	--	--	--	2.0	1.0	2.0	1.0	4.0	3.0	9.0	8.0
25	--	--	--	--	3.0	1.0	1.0	0.0	4.0	3.0	9.0	8.0
26	--	--	--	--	2.0	0.0	1.0	0.0	4.0	3.0	8.0	7.0
27	--	--	--	--	1.0	0.0	1.0	0.0	4.0	3.0	7.0	7.0
28	10.0	10.0	--	--	2.0	1.0	1.0	0.0	4.0	3.0	7.0	6.0
29	10.0	9.0	--	--	2.0	2.0	2.0	1.0	--	--	7.0	7.0
30	9.0	8.0	--	--	2.0	2.0	4.0	2.0	--	--	7.0	6.0
31	9.0	8.0	--	--	2.0	2.0	4.0	4.0	--	--	6.0	5.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.0	14.0	12.0	22.0	19.0	26.0	25.0	23.0	22.0	22.0	21.0
2	7.0	6.0	15.0	13.0	21.0	20.0	25.0	23.0	24.0	22.0	22.0	21.0
3	9.0	7.0	17.0	14.0	20.0	18.0	24.0	23.0	23.0	22.0	22.0	21.0
4	10.0	8.0	18.0	16.0	18.0	17.0	25.0	23.0	23.0	22.0	22.0	21.0
5	12.0	10.0	18.0	17.0	18.0	17.0	26.0	24.0	23.0	21.0	22.0	22.0
6	12.0	10.0	19.0	17.0	19.0	17.0	26.0	24.0	23.0	21.0	22.0	22.0
7	12.0	9.0	19.0	18.0	19.0	18.0	25.0	24.0	23.0	22.0	22.0	22.0
8	15.0	10.0	19.0	19.0	21.0	19.0	24.0	23.0	23.0	22.0	22.0	21.0
9	13.0	12.0	19.0	17.0	21.0	19.0	23.0	22.0	23.0	22.0	21.0	19.0
10	14.0	13.0	17.0	15.0	20.0	19.0	23.0	23.0	22.0	19.0	19.0	18.0
11	14.0	13.0	15.0	14.0	21.0	19.0	24.0	23.0	20.0	19.0	19.0	17.0
12	14.0	12.0	14.0	13.0	22.0	20.0	24.0	23.0	20.0	19.0	18.0	17.0
13	15.0	13.0	13.0	12.0	22.0	21.0	24.0	23.0	20.0	19.0	18.0	17.0
14	14.0	14.0	14.0	13.0	22.0	21.0	23.0	22.0	21.0	19.0	18.0	17.0
15	15.0	14.0	16.0	13.0	22.0	19.0	23.0	22.0	22.0	21.0	19.0	17.0
16	16.0	14.0	17.0	14.0	19.0	18.0	24.0	23.0	23.0	22.0	19.0	18.0
17	17.0	14.0	17.0	16.0	19.0	18.0	25.0	23.0	23.0	22.0	19.0	18.0
18	17.0	16.0	17.0	17.0	19.0	18.0	26.0	24.0	23.0	23.0	19.0	18.0
19	16.0	12.0	18.0	17.0	19.0	18.0	26.0	24.0	23.0	22.0	18.0	17.0
20	12.0	11.0	18.0	17.0	20.0	19.0	26.0	25.0	22.0	21.0	17.0	17.0
21	12.0	11.0	18.0	17.0	20.0	19.0	26.0	24.0	22.0	21.0	18.0	16.0
22	12.0	11.0	18.0	17.0	20.0	19.0	25.0	24.0	21.0	19.0	18.0	17.0
23	12.0	11.0	18.0	17.0	--	--	24.0	23.0	21.0	19.0	18.0	17.0
24	12.0	11.0	18.0	17.0	--	--	25.0	24.0	21.0	19.0	18.0	17.0
25	13.0	11.0	17.0	16.0	22.0	21.0	25.0	24.0	21.0	19.0	17.0	17.0
26	14.0	11.0	17.0	17.0	23.0	21.0	25.0	23.0	22.0	20.0	17.0	16.0
27	15.0	12.0	17.0	16.0	24.0	23.0	25.0	23.0	22.0	20.0	17.0	16.0
28	15.0	14.0	18.0	17.0	26.0	24.0	25.0	23.0	21.0	19.0	17.0	16.0
29	15.0	13.0	19.0	17.0	26.0	23.0	24.0	23.0	22.0	20.0	16.0	14.0
30	13.0	13.0	20.0	18.0	26.0	24.0	23.0	22.0	22.0	21.0	16.0	14.0
31	--	--	21.0	19.0	--	--	23.0	22.0	23.0	21.0	--	--

3-2288.05. ALUM CREEK AT AFRICA, OHIO

LOCATION.--Lat 40°10'56", long 82°57'42", in SE 1/4 sec.1, T.3 N., R.18 W., Delaware County, at gaging station at bridge on Orange Township Road 109, 0.3 mile west of Africa, and 4.2 miles northwest of Westerville.
DRAINAGE AREA.--122 sq mi.
PERIOD OF RECORD.--Chemical analyses: December 1964 to August 1965, periodic; October 1965 to September 1969.
Water temperatures: October 1965 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 1,060 micromhos Oct. 24, 26, 28, 29, 31; minimum daily, 205 micromhos May 19.
Water temperatures: Maximum, 25°C June 28, July 17, 27; minimum, freezing point on several days during January to March.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.										
03...	--	1.8	--	--	234	0	189	72	.3	.6
07...	0900	2.8	100	200	--	--	--	--	--	--
15...	0830	5.0	--	--	278	0	219	70	.3	.5
28...	0830	6.6	--	--	296	0	233	68	.4	.3
NOV.										
06...	0845	7.9	180	50	--	--	--	--	--	--
07...	0830	9.3	--	--	300	0	226	68	.4	.0
22...	0830	17	--	--	220	0	165	96	.3	5.8
30...	0830	92	--	--	120	0	97	63	.2	20
DEC.										
04...	0825	150	190	20	--	--	--	--	--	--
14...	0830	18	--	--	224	0	151	64	.3	7.4
18...	0830	17	--	--	268	0	179	76	.3	6.3
JAN.										
01...	0830	110	--	--	152	0	114	38	.1	5.8
16...	0830	15	--	--	292	0	176	76	.2	1.8
22...	1200	138	240	20	--	--	--	--	--	--
30...	0830	2850	--	--	46	0	40	15	.0	7.8
FEB.										
01...	0800	552	--	--	92	0	64	27	.2	15
07...	0830	72	--	--	168	0	108	112	.2	8.5
07...	1100	73	200	30	--	--	--	--	--	--
16...	0830	46	--	--	200	0	125	54	.2	7.5
MAR.										
07...	0830	39	--	--	196	0	148	57	.2	2.6
18...	1600	30	200	50	--	--	--	--	--	--
22...	0830	38	--	--	196	0	169	61	.2	.6
28...	0830	144	--	--	142	0	110	45	.2	10
APR.										
05...	0830	89	--	--	168	0	128	56	.2	2.7
17...	0815	--	70	10	--	--	--	--	--	--
19...	0830	2570	--	--	68	0	47	18	.2	8.6
MAY										
07...	0830	46	--	--	200	0	134	48	.2	1.8
08...	1430	--	80	40	--	--	--	--	--	--
17...	0830	66	--	--	180	0	114	42	.2	4.1
19...	0830	4210	--	--	54	0	35	8.0	.2	9.0
JUNE										
02...	0830	57	--	--	216	0	112	44	.2	2.5
03...	1015	--	70	70	--	--	--	--	--	--
05...	0830	71	--	--	228	0	122	54	.3	2.3
23...	0830	1370	--	--	108	0	62	18	.2	8.7
JULY										
01...	0900	44	50	220	--	--	--	--	--	--
03...	0830	34	--	--	224	0	109	98	.3	17
12...	0830	490	--	--	104	0	50	22	.2	9.3
24...	0830	85	--	--	186	0	70	56	.3	15
AUG.										
05...	1055	23	120	20	--	--	--	--	--	--
07...	0830	14	--	--	182	0	74	52	.3	1.4
15...	0830	13	--	--	218	0	94	118	.3	.7
26...	0830	10	--	--	192	0	77	90	.3	1.7
SEPT.										
02...	0800	4.2	--	--	214	0	98	80	.2	1.5
03...	0830	4.4	150	100	--	--	--	--	--	--
11...	0830	9.5	--	--	186	0	167	105	.4	.8
23...	0830	6.4	--	--	226	0	140	87	.3	3.1

3-2288.05. ALUM CREEK AT AFRICA, OHIO--Continued

EXTREMES, 1965-69.--Specific conductance: Maximum daily, 1,560 micromhos Feb. 6, 1966; minimum daily, 175 micromhos July 14, 1966.
Water temperatures: Maximum, 28°C July 3, 1966; minimum, freezing point on many days during winter period.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
03...	.29	552	405	213	930	7.6	--	--	--
07...	--	--	--	--	--	--	11	7.6	68
15...	.00	610	360	132	1030	7.5	9	--	--
28...	.00	712	500	257	1060	7.6	7	--	--
NOV.									
06...	--	--	--	--	--	--	10	7.4	65
07...	.00	610	490	244	1050	8.0	6	--	--
22...	.02	594	400	220	952	8.0	6	--	--
30...	.10	360	245	147	625	7.2	6	--	--
DEC.									
04...	--	--	--	--	--	--	6	10.2	82
14...	.00	550	375	191	831	7.9	1	--	--
18...	.48	600	445	225	963	7.9	1	--	--
JAN.									
01...	.11	386	290	165	613	8.0	1	--	--
16...	.00	632	470	231	1010	7.7	0	--	--
22...	--	--	--	--	--	--	3	13.0	96
30...	.23	156	95	58	231	7.3	1	--	--
FEB.									
01...	.14	272	160	84	395	7.2	3	--	--
07...	.00	514	300	162	831	7.6	0	--	--
07...	--	--	--	--	--	--	1	13.0	92
16...	.00	484	317	153	720	7.9	1	--	--
MAR.									
07...	.02	510	337	176	770	7.5	2	--	--
18...	--	--	--	--	--	--	10	14.2	126
22...	.25	526	350	189	814	7.6	6	--	--
28...	.13	376	258	141	564	7.4	5	--	--
APR.									
05...	.02	480	278	140	698	7.7	12	--	--
17...	--	--	--	--	--	--	15	8.5	83
19...	.18	190	111	56	281	7.0	7	--	--
MAY									
07...	.00	498	310	146	717	7.5	20	--	--
08...	--	--	--	--	--	--	20	7.4	82
17...	.00	426	275	127	625	7.3	20	--	--
19...	.22	146	82	38	205	7.3	16	--	--
JUNE									
02...	.00	452	315	138	699	7.8	20	--	--
03...	--	--	--	--	--	--	17	8.8	91
05...	.00	476	325	138	744	7.6	18	--	--
23...	.13	248	165	76	383	7.2	18	--	--
JULY									
01...	--	--	--	--	--	--	24	7.4	87
03...	.03	532	346	162	856	8.2	22	--	--
12...	.22	242	154	69	361	7.5	22	--	--
24...	.09	390	256	103	620	7.4	24	--	--
AUG.									
05...	--	--	--	--	--	--	21	7.4	82
07...	.09	348	246	97	550	7.5	22	--	--
15...	.05	526	334	155	875	8.1	23	--	--
26...	.08	436	310	152	712	8.1	21	--	--
SEPT.									
02...	.00	450	322	146	725	7.7	21	--	--
03...	--	--	--	--	--	--	21	5.6	62
11...	.57	548	382	229	966	8.1	15	--	--
23...	.00	504	385	200	843	8.2	17	--	--

3-2288.05. ALUM CREEK AT AFRICA, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0830)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	939	1030	--	613	395	760	622	647	--	678	687	--
2.....	937	1050	716	606	--	760	--	642	699	854	--	725
3.....	930	1040	724	648	607	762	674	652	683	856	837	762
4.....	--	1040	702	694	718	662	688	--	728	--	717	757
5.....	--	1030	--	--	716	770	698	689	744	--	589	769
6.....	--	1040	--	--	607	746	442	706	716	--	585	--
7.....	932	1050	--	--	831	770	483	717	710	--	550	819
8.....	--	1050	726	--	709	796	525	--	731	397	593	826
9.....	--	1050	835	--	432	770	572	--	650	477	630	--
10.....	--	1040	837	--	453	769	605	524	602	542	655	953
11.....	971	1030	--	--	517	779	634	428	604	586	--	966
12.....	971	1030	839	--	571	800	660	433	--	361	847	--
13.....	1000	1000	--	973	644	796	663	493	638	--	806	912
14.....	1030	935	831	970	686	807	--	545	714	493	856	907
15.....	1030	--	864	994	709	798	672	580	693	557	875	--
16.....	1030	901	927	1010	720	808	684	611	724	604	841	851
17.....	1020	928	927	--	720	803	695	625	731	643	--	862
18.....	1020	916	963	370	738	789	--	627	738	672	817	828
19.....	979	874	--	--	744	792	281	205	731	703	813	834
20.....	1020	890	--	--	748	784	449	265	729	--	--	--
21.....	--	916	--	--	748	792	573	384	737	712	665	--
22.....	1030	952	--	572	761	814	513	512	737	687	570	--
23.....	1040	944	--	612	756	810	583	--	383	714	741	843
24.....	1060	947	542	552	758	794	583	--	440	620	--	834
25.....	1050	944	--	616	775	674	578	--	395	565	--	851
26.....	1060	952	559	--	768	567	602	623	467	--	712	868
27.....	1040	961	--	703	753	576	605	697	--	629	709	875
28.....	1060	857	--	702	761	564	613	670	578	607	702	--
29.....	1060	--	--	542	--	610	599	647	628	607	729	950
30.....	1040	625	--	231	--	568	623	655	644	628	--	--
31.....	1060	--	--	278	--	587	--	678	--	656	--	--
AVERAGE	1010	965	--	--	679	737	589	570	650	618	--	--

MAXIMUM VALUE = 1060 MINIMUM VALUE = 205

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0830)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	20	20	--	--	--	--	18	--	--	--	16	17	18	10	9	9	12	10	14	11	--	10	9	9	9	8	7	7	7	6	7	--
NOVEMBER.	7	7	8	7	9	9	6	5	5	4	4	4	3	3	--	7	8	7	5	2	2	6	8	6	5	4	6	9	--	6	--	6
DECEMBER.	--	5	6	6	--	--	--	1	1	1	--	2	--	1	1	1	1	1	1	1	1	1	--	1	--	1	--	--	--	--	--	--
JANUARY..	1	1	1	1	--	--	--	--	--	--	--	--	0	0	0	0	--	2	--	--	--	3	2	2	3	--	1	1	1	1	3	--
FEBRUARY.	3	--	0	0	0	0	0	1	0	1	1	1	1	0	1	1	1	0	1	1	1	1	3	3	2	2	1	1	--	--	--	1
MARCH....	3	1	1	1	1	2	2	4	3	1	0	0	0	1	1	1	2	4	5	8	3	6	7	7	6	8	7	5	7	--	1	3
APRIL....	3	--	5	6	12	9	7	9	11	15	10	11	13	--	13	13	15	--	7	6	9	9	8	6	9	11	13	14	13	9	--	10
MAY.....	10	13	15	--	18	19	20	--	--	12	11	9	10	13	14	17	20	19	16	17	15	15	--	--	--	15	15	17	19	22	20	16
JUNE.....	--	20	16	15	18	16	17	22	18	18	20	--	22	17	18	17	16	19	18	20	19	20	18	18	19	21	--	25	23	23	--	19
JULY.....	24	22	22	--	--	--	--	19	20	23	19	22	--	22	22	24	25	21	21	--	23	23	23	24	23	--	25	23	22	20	21	--
AUGUST...	22	--	22	21	20	21	22	23	22	22	--	20	21	21	23	24	--	23	23	--	20	19	19	--	--	21	20	19	20	--	--	--
SEPTEMBER	--	21	21	21	22	--	23	21	--	16	15	--	15	17	--	18	19	16	16	--	--	--	17	18	17	15	15	--	12	--	--	--

MAXIMUM VALUE = 25 MINIMUM VALUE = 0

3-2296. SCIOTO RIVER BELOW SHADEVILLE, OHIO

LOCATION.--Lat 39°47'37", long 83°00'40", Pickaway County, on left bank at Picway Plant of Columbus and Southern Ohio Electric Company, 0.4 mile downstream from Big Walnut Creek, and 3.2 miles downstream from Shadeville.
DRAINAGE AREA.--2,266 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1965 to September 1969.
Water temperatures: March 1965 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,030 micromhos Oct. 3; minimum, 210 micromhos July 12.
Water temperatures: Maximum, 32°C Aug. 16; minimum, freezing point Jan. 21, 26-28.
EXTREMES, 1965-69.--Specific conductance: Maximum, 1,260 micromhos Feb. 9, 1966; minimum, 190 micromhos May 27, 1968.
Dissolved oxygen (1965-68): Maximum, 14.6 mg/l Dec. 24, 1967; minimum, 0.0 mg/l on many days during May 1965, June 1966, June to August 1967, June to September 1968.
Water temperatures: Maximum, 33°C Aug. 16, 1965; minimum, freezing point on several days during December 1967 to March 1968, January 1969.
REMARKS.--Continuous water quality recorder operated since March 1965. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, daily samples were collected by a local observer. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.											
03...	0830	387	0	100	20	2.2	.8	528	266	0	989
08...	0800	180	0	117	44	2.0	20	420	250	103	721
NOV.											
05...	0740	180	0	156	64	1.7	50	544	277	129	949
29...	0745	170	0	96	42	.3	1.4	346	240	101	590
DEC.											
18...	0945	194	4	155	48	.7	23	526	346	180	823
31...	0750	128	0	70	22	.3	18	242	206	101	437
JAN.											
17...	0830	216	0	129	58	.9	21	464	305	128	808
31...	0800	88	0	45	14	.2	8.4	156	141	69	300
FEB.											
03...	--	120	0	59	20	.2	13	250	178	80	397
26...	0800	224	0	120	38	.4	18	446	322	138	739
MAR.											
03...	0800	200	8	115	36	.3	21	464	310	146	698
19...	0808	232	0	150	44	1.6	15	510	325	135	820
APR.											
04...	0730	188	0	122	34	.7	20	430	305	151	679
21...	0800	116	0	62	16	.2	14	226	176	81	397
MAY											
08...	0800	206	0	122	36	.6	17	384	294	124	702
21...	0915	108	0	49	12	.1	13	218	154	66	333
JUNE											
16...	0800	182	0	92	26	.3	13	380	258	109	576
25...	0900	100	0	40	9.5	.2	11	180	133	51	293
JULY											
03...	0830	196	0	98	28	.6	19	388	272	111	613
24...	1230	164	0	55	13	.4	8.4	240	190	55	370
AUG.											
12...	0800	176	0	73	25	.5	14	350	226	82	530
29...	0830	188	0	126	52	1.1	37	510	295	141	781
SEPT.											
05...	0900	194	0	142	57	1.6	32	544	308	149	859
09...	0900	206	0	109	45	.7	10	410	284	114	601

3-2296. SCIOTO RIVER BELOW SHADEVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	940	840	950	890	---	---	---	---	400	300	730	700
2	960	840	950	870	---	---	---	---	680	380	730	710
3	1030	580	960	920	---	---	---	---	690	370	720	630
4	750	580	930	890	---	---	---	---	420	400	---	---
5	720	610	950	880	---	---	---	---	490	400	---	---
6	830	720	900	860	---	---	---	---	570	450	770	730
7	880	710	---	---	---	---	---	---	590	510	790	740
8	740	680	---	---	---	---	---	---	640	520	790	730
9	790	690	---	---	---	---	---	---	650	360	790	740
10	860	760	---	---	---	---	---	---	480	380	750	680
11	920	860	---	---	---	---	---	---	510	450	770	720
12	860	820	850	820	---	---	---	---	600	520	790	720
13	910	820	820	740	---	---	---	---	640	570	810	740
14	930	850	850	790	---	---	---	---	680	580	790	740
15	890	790	850	800	---	---	---	---	730	650	820	750
16	820	720	850	560	---	---	---	---	720	690	810	760
17	930	810	---	---	---	---	---	---	730	650	820	760
18	920	830	---	---	---	---	---	---	730	650	820	740
19	900	800	680	620	---	---	---	---	740	650	860	780
20	880	800	690	640	---	---	---	---	720	650	820	770
21	890	790	700	630	---	---	470	390	720	670	820	760
22	910	830	730	670	---	---	430	380	760	700	810	770
23	880	820	770	700	---	---	500	370	770	680	810	760
24	890	800	740	670	---	---	500	470	750	700	800	680
25	910	850	730	670	---	---	530	460	770	730	820	710
26	900	830	800	700	---	---	490	430	760	700	750	650
27	890	840	780	730	---	---	610	470	730	690	660	610
28	930	890	730	550	---	---	550	490	740	700	690	610
29	930	860	---	---	---	---	590	250	---	---	680	620
30	900	810	---	---	---	---	400	250	---	---	770	600
31	940	890	---	---	---	---	330	260	---	---	670	610

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	660	600	670	550	680	520	610	530	640	510	850	760
2	700	620	720	590	670	580	670	570	640	520	820	680
3	710	610	670	530	670	600	670	590	690	450	910	780
4	690	590	---	---	660	570	660	540	710	580	940	780
5	690	560	---	---	640	530	680	560	680	540	940	800
6	620	360	680	610	640	500	660	530	700	580	930	830
7	480	360	700	640	640	560	620	520	740	610	860	760
8	540	450	740	500	650	560	620	450	800	690	800	700
9	520	470	700	230	670	590	550	440	790	320	750	600
10	520	380	540	270	690	620	560	450	450	240	670	590
11	590	470	520	320	700	640	520	460	520	320	690	620
12	570	510	490	360	780	570	540	210	620	500	720	630
13	540	450	520	430	750	360	540	360	720	530	750	660
14	560	510	590	500	610	420	540	420	740	630	790	690
15	580	510	580	480	620	540	530	450	750	650	790	610
16	590	520	690	530	720	590	670	510	860	700	770	680
17	610	540	720	630	690	620	680	560	850	710	830	710
18	610	390	720	610	690	590	660	570	800	730	830	600
19	550	280	630	270	690	600	---	---	830	580	720	630
20	370	300	290	220	700	670	---	---	700	540	710	640
21	420	340	360	240	720	640	---	---	670	570	710	600
22	440	390	400	290	760	690	---	---	630	510	670	620
23	480	410	420	350	720	280	---	---	700	540	710	610
24	490	440	450	380	420	270	460	350	720	640	760	660
25	470	410	430	360	430	260	510	420	730	580	780	650
26	480	410	420	350	510	350	550	450	770	660	810	700
27	520	420	430	360	600	500	600	460	790	730	810	750
28	590	490	510	380	550	450	580	260	800	690	770	680
29	580	510	590	480	570	470	520	380	880	740	750	680
30	600	520	630	520	580	490	520	460	890	820	800	700
31	---	---	620	540	---	---	630	480	880	750	---	---

3-2296. SCIOTO RIVER BELOW SHADEVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	4.4	3.2	---	---	---	---	13.3	13.0	10.0	8.8
2	---	---	4.0	1.8	---	---	---	---	13.4	13.0	10.0	8.2
3	---	---	2.9	2.1	---	---	---	---	13.4	12.9	10.0	8.2
4	---	---	4.2	2.6	---	---	---	---	13.6	13.1	---	---
5	---	---	4.3	3.1	---	---	---	---	13.9	13.2	---	---
6	---	---	4.3	2.8	---	---	---	---	13.7	12.7	9.6	8.5
7	---	---	---	---	---	---	---	---	15.0	12.4	9.0	7.4
8	---	---	---	---	---	---	---	---	15.0	15.0	8.9	7.0
9	2.9	0.0	---	---	---	---	---	---	15.0	15.0	8.9	7.6
10	1.3	0.2	---	---	---	---	---	---	15.0	15.0	10.7	8.7
11	---	---	---	---	---	---	---	---	15.0	12.6	11.0	9.0
12	---	---	3.6	3.1	---	---	---	---	13.4	12.6	11.1	9.3
13	2.1	0.6	4.7	2.8	---	---	---	---	13.8	12.8	10.8	9.0
14	2.0	0.4	5.6	3.4	---	---	---	---	14.3	13.5	13.9	9.0
15	1.7	0.1	5.1	3.2	---	---	---	---	15.0	13.8	13.0	7.9
16	1.7	0.0	3.5	1.0	---	---	---	---	13.8	12.8	12.9	8.4
17	---	---	---	---	---	---	---	---	12.8	11.8	14.5	8.7
18	1.1	0.0	5.0	3.6	---	---	---	---	11.8	10.0	13.0	8.6
19	1.1	0.0	5.2	3.6	---	---	---	---	10.3	9.6	13.8	7.9
20	0.4	0.0	6.1	4.1	---	---	---	---	10.0	8.4	11.7	5.9
21	2.1	0.1	6.1	5.4	---	---	14.2	13.7	10.0	7.8	9.2	5.2
22	1.3	0.2	10.0	5.0	---	---	13.9	13.2	8.6	6.5	8.3	5.8
23	1.7	0.7	9.0	6.8	---	---	13.3	12.7	8.2	6.3	9.0	5.8
24	2.2	0.4	7.9	6.0	---	---	12.8	12.3	9.1	7.7	7.2	5.3
25	1.6	0.7	9.3	6.5	---	---	13.6	12.6	9.8	7.1	6.7	4.8
26	1.4	0.7	9.1	6.5	---	---	13.8	13.4	10.0	7.8	8.7	5.7
27	1.2	0.4	8.7	5.4	---	---	13.8	13.4	10.0	8.5	9.1	7.7
28	1.1	0.4	6.9	3.1	---	---	13.6	11.8	10.0	9.1	14.2	8.5
29	1.8	1.1	---	---	---	---	13.5	11.9	---	---	14.0	8.2
30	2.3	1.5	---	---	---	---	13.6	12.8	---	---	13.3	11.3
31	3.4	2.1	---	---	---	---	13.3	12.8	---	---	13.5	12.1

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	10.7	8.1	6.5	7.0	4.1	2.4	0.9	4.7	2.8	0.9	0.0
2	11.1	10.1	7.9	5.8	5.4	3.4	2.2	1.3	3.6	1.8	0.9	0.0
3	11.7	10.1	6.2	4.8	5.1	3.4	1.8	0.9	5.7	1.7	2.9	0.5
4	11.6	9.9	---	---	6.9	4.1	2.1	0.8	4.6	2.5	---	---
5	9.9	8.4	---	---	6.0	4.5	2.0	0.9	5.3	2.7	3.5	1.2
6	10.7	8.9	---	---	5.5	4.5	---	---	7.0	2.7	3.2	0.8
7	11.3	10.7	5.9	4.4	5.4	3.9	---	---	6.9	3.4	4.2	1.4
8	10.8	10.1	4.4	1.4	4.8	3.2	---	---	5.4	3.2	3.0	1.6
9	10.4	9.6	6.8	2.2	5.5	3.7	4.7	2.6	4.4	2.9	2.8	1.5
10	9.7	8.4	7.3	6.7	6.5	4.0	4.3	2.7	5.5	2.6	3.1	2.1
11	9.4	8.2	9.1	7.3	5.1	3.2	6.1	2.7	4.7	3.3	3.4	2.2
12	9.2	8.2	9.3	8.7	4.6	2.2	---	---	4.3	3.1	3.7	2.6
13	8.6	7.4	8.8	8.0	3.3	1.8	5.1	3.9	4.9	2.5	2.7	1.4
14	8.6	7.4	8.3	6.9	2.6	1.1	7.5	4.5	4.9	2.8	2.9	1.5
15	7.7	6.7	7.4	5.5	3.2	1.1	6.7	4.4	6.8	3.1	2.3	1.3
16	7.5	6.5	6.1	4.2	4.4	2.6	---	---	6.6	3.0	2.6	1.2
17	7.2	6.0	4.5	3.5	3.4	2.8	---	---	5.3	3.0	2.1	1.2
18	7.1	5.5	4.5	3.2	4.0	3.3	---	---	5.3	2.3	2.3	1.3
19	9.8	7.1	7.4	3.6	3.4	2.2	---	---	4.4	2.8	2.2	1.5
20	10.0	9.7	7.6	6.7	2.7	1.7	---	---	3.1	1.2	3.2	1.7
21	9.9	9.6	7.2	6.7	2.9	1.4	---	---	4.6	2.8	5.4	2.5
22	10.1	9.2	7.5	6.2	2.9	1.5	---	---	4.5	3.5	3.4	2.4
23	9.7	9.0	7.3	6.6	5.0	1.7	---	---	5.2	3.2	3.0	1.7
24	9.9	9.4	7.4	6.8	5.0	3.7	5.5	4.8	5.4	3.7	2.5	1.6
25	9.7	8.7	7.3	6.6	4.9	4.1	5.3	4.6	5.2	2.9	3.6	1.5
26	8.9	8.1	7.4	6.8	6.0	4.6	4.9	3.5	5.2	3.1	3.7	2.5
27	8.1	7.1	7.2	6.6	5.1	4.4	4.9	2.4	4.2	2.1	3.3	2.5
28	7.8	6.6	6.6	5.1	5.0	3.6	5.5	3.7	2.5	1.5	4.0	2.8
29	7.8	6.8	5.4	4.2	4.9	2.9	5.2	3.8	2.4	0.7	4.0	3.2
30	7.9	6.9	5.2	4.0	3.5	2.2	5.2	4.0	2.1	1.3	5.1	3.4
31	---	---	6.7	4.6	---	---	5.5	3.8	1.8	0.1	---	---

3-2296. SCIOTO RIVER BELOW SHADEVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	28.0	18.0	21.0	13.0	--	--	--	--	6.0	4.0	7.0	5.0
2	28.0	19.0	17.0	14.0	--	--	--	--	4.0	3.0	7.0	6.0
3	23.0	17.0	17.0	15.0	--	--	--	--	6.0	3.0	6.0	3.0
4	22.0	17.0	21.0	14.0	--	--	--	--	4.0	2.0	--	--
5	21.0	16.0	18.0	15.0	--	--	--	--	4.0	2.0	--	--
6	19.0	17.0	16.0	14.0	--	--	--	--	6.0	2.0	7.0	6.0
7	21.0	18.0	--	--	--	--	--	--	6.0	3.0	9.0	6.0
8	22.0	16.0	--	--	--	--	--	--	7.0	3.0	8.0	6.0
9	19.0	13.0	--	--	--	--	--	--	5.0	2.0	8.0	7.0
10	24.0	16.0	--	--	--	--	--	--	4.0	2.0	7.0	3.0
11	24.0	15.0	--	--	--	--	--	--	4.0	2.0	5.0	2.0
12	23.0	16.0	10.0	9.0	--	--	--	--	6.0	3.0	6.0	1.0
13	21.0	16.0	9.0	8.0	--	--	--	--	5.0	2.0	7.0	4.0
14	27.0	17.0	10.0	7.0	--	--	--	--	6.0	2.0	6.0	4.0
15	26.0	17.0	14.0	8.0	--	--	--	--	6.0	3.0	8.0	3.0
16	26.0	17.0	12.0	7.0	--	--	--	--	7.0	4.0	9.0	5.0
17	26.0	16.0	11.0	7.0	--	--	--	--	6.0	3.0	9.0	5.0
18	24.0	16.0	12.0	8.0	--	--	--	--	8.0	3.0	10.0	7.0
19	20.0	14.0	11.0	8.0	--	--	--	--	6.0	3.0	15.0	10.0
20	20.0	16.0	8.0	6.0	--	--	--	--	7.0	4.0	14.0	11.0
21	21.0	13.0	8.0	5.0	--	--	4.0	0.0	7.0	3.0	12.0	10.0
22	18.0	13.0	9.0	7.0	--	--	4.0	1.0	9.0	4.0	12.0	8.0
23	21.0	14.0	9.0	6.0	--	--	6.0	1.0	8.0	5.0	11.0	8.0
24	22.0	15.0	9.0	7.0	--	--	5.0	2.0	8.0	6.0	9.0	7.0
25	21.0	14.0	7.0	5.0	--	--	4.0	1.0	7.0	5.0	8.0	4.0
26	16.0	13.0	9.0	5.0	--	--	2.0	0.0	8.0	5.0	11.0	7.0
27	15.0	13.0	9.0	7.0	--	--	3.0	0.0	7.0	5.0	8.0	6.0
28	19.0	13.0	11.0	4.0	--	--	3.0	0.0	7.0	5.0	10.0	6.0
29	17.0	11.0	--	--	--	--	5.0	1.0	--	--	9.0	8.0
30	19.0	12.0	--	--	--	--	6.0	3.0	--	--	8.0	5.0
31	19.0	11.0	--	--	--	--	6.0	4.0	--	--	7.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.0	19.0	11.0	26.0	20.0	26.0	23.0	28.0	22.0	24.0	19.0
2	9.0	6.0	21.0	13.0	24.0	19.0	28.0	22.0	27.0	22.0	25.0	20.0
3	11.0	7.0	20.0	12.0	22.0	20.0	27.0	23.0	26.0	18.0	25.0	21.0
4	11.0	6.0	--	--	23.0	18.0	27.0	23.0	27.0	22.0	26.0	22.0
5	11.0	7.0	--	--	23.0	18.0	28.0	24.0	25.0	18.0	26.0	22.0
6	10.0	7.0	23.0	18.0	21.0	18.0	28.0	24.0	27.0	19.0	27.0	22.0
7	8.0	6.0	22.0	19.0	23.0	19.0	27.0	23.0	30.0	22.0	27.0	23.0
8	10.0	6.0	22.0	11.0	24.0	20.0	25.0	22.0	29.0	25.0	26.0	22.0
9	9.0	6.0	22.0	15.0	24.0	21.0	27.0	23.0	29.0	22.0	24.0	21.0
10	13.0	6.0	22.0	14.0	24.0	20.0	28.0	24.0	24.0	20.0	23.0	20.0
11	14.0	9.0	17.0	12.0	24.0	21.0	28.0	23.0	26.0	21.0	23.0	20.0
12	14.0	8.0	14.0	12.0	27.0	17.0	27.0	22.0	27.0	23.0	23.0	20.0
13	13.0	6.0	14.0	12.0	26.0	21.0	28.0	23.0	29.0	22.0	23.0	20.0
14	13.0	11.0	15.0	11.0	26.0	22.0	25.0	23.0	29.0	23.0	24.0	21.0
15	13.0	10.0	17.0	12.0	24.0	22.0	30.0	24.0	30.0	26.0	23.0	17.0
16	15.0	12.0	20.0	14.0	26.0	22.0	31.0	23.0	32.0	26.0	24.0	17.0
17	17.0	12.0	21.0	17.0	23.0	19.0	30.0	25.0	31.0	25.0	24.0	19.0
18	16.0	12.0	21.0	18.0	22.0	20.0	29.0	26.0	29.0	25.0	23.0	17.0
19	13.0	8.0	19.0	16.0	23.0	19.0	--	--	28.0	23.0	21.0	18.0
20	9.0	7.0	18.0	15.0	25.0	21.0	--	--	26.0	22.0	21.0	18.0
21	10.0	8.0	18.0	16.0	24.0	20.0	--	--	27.0	22.0	21.0	18.0
22	9.0	7.0	20.0	13.0	24.0	21.0	--	--	26.0	20.0	23.0	19.0
23	8.0	7.0	17.0	14.0	23.0	21.0	--	--	25.0	19.0	23.0	19.0
24	10.0	7.0	18.0	16.0	23.0	17.0	27.0	22.0	26.0	22.0	22.0	20.0
25	12.0	8.0	18.0	14.0	26.0	22.0	28.0	23.0	26.0	20.0	23.0	18.0
26	13.0	9.0	18.0	16.0	26.0	21.0	28.0	22.0	26.0	21.0	22.0	18.0
27	16.0	9.0	21.0	17.0	25.0	22.0	28.0	22.0	27.0	22.0	21.0	18.0
28	18.0	12.0	22.0	16.0	26.0	21.0	25.0	20.0	22.0	19.0	19.0	17.0
29	14.0	11.0	23.0	18.0	26.0	21.0	27.0	22.0	26.0	19.0	19.0	16.0
30	16.0	12.0	25.0	20.0	25.0	22.0	26.0	22.0	27.0	22.0	21.0	17.0
31	--	--	24.0	20.0	--	--	28.0	22.0	25.0	21.0	--	--

3-2310. DEER CREEK AT WILLIAMSPORT, OHIO

LOCATION.--Lat 39°35'09", long 83°07'22", Pickaway County, at gaging station at bridge on U.S. Highway 22 at west edge of Williamsport, 2 miles downstream from Dry Run.
DRAINAGE AREA.--333 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969.
Water temperatures: October 1965 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 680 micromhos June 12; minimum daily, 338 micromhos Aug. 12.
Water temperatures: Maximum, 28°C June 12, July 16-18; minimum, freezing point Dec. 15, 16, 24-26, Jan. 1, 4, 5, 7-12.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.										
03...	--	15	--	--	256	0	61	14	.4	.7
09...	--	11	--	--	264	0	66	14	.4	1.1
17...	1430	12	120	130	--	--	--	--	--	--
21...	--	13	--	--	272	0	75	14	.4	1.2
NOV.										
07...	--	16	--	--	268	0	74	14	.4	1.5
14...	1745	14	30	60	--	--	--	--	--	--
19...	1700	587	--	--	244	0	49	14	.4	.9
29...	1700	528	--	--	264	0	52	14	.4	1.9
DEC.										
06...	1700	340	--	--	268	0	60	16	.2	8.9
10...	0855	150	120	70	--	--	--	--	--	--
26...	1700	408	--	--	280	0	66	18	.2	12
31...	1700	932	--	--	186	0	49	18	.1	18
JAN.										
05...	1700	270	--	--	204	0	53	16	.3	20
13...	1700	85	--	--	300	0	70	18	.2	21
29...	1700	1490	--	--	136	0	38	12	.2	15
FEB.										
04...	1700	2760	--	--	134	0	38	13	.3	17
13...	1700	483	--	--	192	0	49	14	.3	20
22...	1700	192	--	--	240	0	56	15	.3	20
25...	--	192	150	70	--	--	--	--	--	--
MAR.										
02...	1700	156	--	--	256	0	58	16	.3	18
14...	1700	91	--	--	272	0	64	16	.4	15
19...	1700	82	60	70	224	0	40	15	.4	14
APR.										
02...	1700	345	--	--	252	0	68	17	.5	6.1
18...	1700	498	--	--	204	8	62	18	.4	10
23...	0900	--	60	30	--	--	--	--	--	--
29...	1700	127	--	--	286	0	69	18	.5	9.8
MAY										
02...	1700	121	--	--	284	0	68	16	.4	15
13...	0945	--	110	30	--	--	--	--	--	--
18...	1700	192	--	--	240	0	61	16	.4	23
23...	1700	1300	--	--	148	0	35	8.0	.3	24
JUNE										
03...	1700	19	--	--	252	0	58	12	.5	22
12...	1700	12	--	--	276	0	107	14	.4	13
19...	0900	38	80	50	--	--	--	--	--	--
24...	1700	295	--	--	136	0	29	8.0	.3	32
JULY										
01...	1700	438	--	--	180	0	33	10	.4	16
13...	1700	100	--	--	264	0	46	13	.4	16
15...	0915	94	140	40	--	--	--	--	--	--
21...	1700	393	--	--	242	0	44	13	.4	19
AUG.										
05...	--	53	--	--	266	0	50	14	.4	11
12...	--	1780	--	--	156	0	30	7.9	.3	8.6
20...	0910	128	140	60	--	--	--	--	--	--
27...	1700	71	--	--	232	0	44	12	.4	8.6
SEPT.										
03...	1700	18	--	--	202	0	56	12	.4	5.6
18...	1700	15	--	--	248	0	76	14	.4	9.2
23...	0900	14	--	--	--	--	--	--	--	--
29...	1700	15	--	--	254	0	72	13	.4	4.4

3-2310. DEER CREEK AT WILLIAMSPORT, OHIO--Continued

EXTREMES, 1965-69.--Specific conductance: Maximum daily, 871 micromhos Jan. 27, 1966; minimum daily, 239 micromhos May 24, 1968.
Water temperatures: Maximum, 31°C June 25, 1967, Aug. 6, 21-23, 1968; minimum, freezing point on many days during winter period.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
03...	.28	308	275	64	519	7.7	19	--	--
09...	.35	330	290	73	565	7.9	18	--	--
17...	--	--	--	--	--	--	18	7.8	82
21...	.32	330	295	72	587	7.9	17	--	--
NOV.									
07...	.43	352	305	85	587	7.5	13	--	--
14...	--	--	--	--	--	--	9	11.6	100
19...	.10	276	260	60	519	8.2	--	--	--
29...	.14	310	275	58	541	7.7	8	--	--
DEC.									
06...	.00	382	295	75	585	8.1	5	--	--
10...	--	--	--	--	--	--	1	11.8	83
26...	.11	404	315	85	618	8.1	0	--	--
31...	.09	322	225	72	468	8.0	2	--	--
JAN.									
05...	.11	350	260	92	506	7.6	0	--	--
13...	.04	438	350	104	667	8.1	1	--	--
29...	.19	252	168	56	356	7.2	4	--	--
FEB.									
04...	.31	224	160	50	358	7.6	4	--	--
13...	.18	310	225	68	469	7.8	2	--	--
22...	.16	366	266	69	556	7.7	5	--	--
25...	--	--	--	--	--	--	4	12.4	95
MAR.									
02...	.22	370	293	82	576	7.6	4	--	--
14...	.10	378	312	88	604	7.7	5	--	--
19...	.08	332	268	84	538	8.2	8	14.2	119
APR.									
02...	.18	358	298	91	573	7.9	8	--	--
18...	.25	328	272	91	510	8.5	6	--	--
23...	--	--	--	--	--	--	9	10.6	91
29...	.18	384	326	91	620	8.1	12	--	--
MAY									
02...	.06	392	320	87	624	7.7	18	--	--
13...	--	--	--	--	--	--	12	10.4	96
18...	.29	374	278	81	559	7.6	20	--	--
23...	.34	240	175	54	364	6.9	20	--	--
JUNE									
03...	.15	352	292	85	570	7.9	19	--	--
12...	1.9	428	346	120	680	7.4	28	--	--
19...	--	--	--	--	--	--	19	8.0	85
24...	.34	232	178	66	356	7.4	23	--	--
JULY									
01...	.19	256	205	58	409	7.7	24	--	--
13...	.07	328	282	65	551	7.5	27	--	--
15...	--	--	--	--	--	--	24	7.6	89
21...	.10	302	264	65	516	7.5	26	--	--
AUG.									
05...	.11	368	288	70	544	7.7	26	--	--
12...	.38	238	166	38	338	7.3	24	--	--
20...	--	--	--	--	--	--	22	7.6	86
27...	.15	316	251	60	483	7.6	25	--	--
SEPT.									
03...	.57	264	242	76	465	8.2	25	--	--
18...	.45	344	314	111	587	7.4	22	--	--
23...	--	--	--	--	--	--	18	6.8	72
29...	.24	312	310	102	552	8.2	20	--	--

3-2310. DEER CREEK AT WILLIAMSPORT, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 1700)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	567	552	532	473	468	574	565	622	552	409	519	525
2.....	533	568	555	482	520	576	573	624	546	412	524	552
3.....	519	569	558	473	540	577	581	609	570	418	535	465
4.....	542	576	561	483	358	595	596	604	527	433	472	558
5.....	541	576	568	506	369	566	567	616	579	437	544	572
6.....	530	537	585	533	369	584	596	586	601	480	524	536
7.....	558	587	580	563	371	586	561	610	594	476	535	572
8.....	554	564	566	584	394	579	554	587	579	461	537	530
9.....	565	558	588	601	388	581	604	590	612	452	508	585
10.....	568	550	591	642	432	572	576	601	631	461	454	580
11.....	557	573	590	655	420	583	515	566	620	501	461	572
12.....	543	573	567	661	437	570	628	558	680	529	338	587
13.....	555	573	608	667	469	600	532	539	463	551	346	571
14.....	583	564	593	662	468	604	566	542	584	539	387	555
15.....	576	571	607	664	464	597	519	541	486	535	417	551
16.....	558	521	610	658	494	540	612	575	556	532	407	567
17.....	558	528	614	654	--	588	614	569	592	527	419	514
18.....	586	530	588	455	499	577	510	559	627	532	434	587
19.....	585	519	576	548	523	538	528	576	641	534	437	524
20.....	578	534	562	483	523	581	529	469	648	528	456	541
21.....	587	534	603	478	541	576	539	492	641	516	497	568
22.....	564	533	608	498	556	574	563	547	634	496	489	564
23.....	575	534	566	506	555	569	590	364	435	547	484	562
24.....	575	530	615	474	544	569	595	395	356	539	490	548
25.....	578	534	614	475	551	592	598	425	496	540	487	552
26.....	563	530	618	486	548	564	615	473	407	538	482	552
27.....	548	533	616	490	554	553	600	520	408	548	483	565
28.....	579	528	468	512	--	564	590	525	394	476	478	552
29.....	581	541	506	356	--	553	620	555	406	503	489	552
30.....	574	541	530	403	--	559	620	570	395	511	475	552
31.....	573	--	468	395	--	572	--	550	--	516	504	--
AVERAGE	563	548	574	532	475	574	575	547	542	499	471	553

MAXIMUM VALUE = 680 MINIMUM VALUE = 338

3-2310. DEER CREEK AT WILLIAMSPORT, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 1700)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	24	21	19	17	17	13	14	16	18	18	17	18	19	21	21	21	22	21	21	18	17	17	14	13	12	12	12	9	9	11	11	17
NOVEMBER.	14	14	13	14	14	13	13	10	9	7	8	8	7	7	9	10	10	9	9	7	7	8	9	9	8	8	8	9	8	8	--	10
DECEMBER.	7	8	7	6	5	5	3	3	2	2	2	8	6	2	0	0	1	1	1	1	2	2	1	0	0	0	1	4	2	3	2	3
JANUARY..	0	1	1	0	0	1	0	0	0	0	0	0	1	1	1	1	1	2	3	3	3	5	5	4	3	3	4	3	4	5	5	2
FEBRUARY.	5	5	5	4	4	4	5	4	4	4	4	3	2	3	2	3	--	5	4	5	5	5	5	4	4	4	5	--	--	--	--	4
MARCH....	5	4	5	5	5	5	5	5	4	4	3	4	5	5	5	6	7	9	10	10	8	9	9	9	7	6	8	9	7	7	8	6
APRIL....	7	8	10	11	11	11	14	15	15	16	16	16	15	15	15	19	19	16	13	13	13	12	10	14	15	17	19	18	12	16	--	14
MAY.....	17	18	20	20	21	21	22	20	18	16	15	15	15	16	19	20	20	20	20	21	21	21	20	20	21	21	22	22	23	24	26	20
JUNE.....	27	27	19	22	22	25	26	26	26	25	26	28	24	24	20	20	21	20	23	25	25	23	23	23	24	24	24	25	25	25	--	24
JULY.....	24	25	24	25	25	25	24	24	25	25	25	27	27	26	27	28	28	28	27	25	26	24	26	26	26	27	26	26	24	26	25	26
AUGUST...	26	26	26	26	26	27	27	27	25	23	25	24	24	25	26	24	24	25	24	25	24	25	25	25	25	26	25	25	25	25	27	25
SEPTEMBER	26	26	25	26	26	26	26	25	21	21	20	21	22	22	22	23	20	22	19	19	22	23	22	19	19	20	17	18	18	20	--	22

MAXIMUM VALUE = 28 MINIMUM VALUE = 0

3-2315. SCIOTO RIVER AT CHILLICOTHE, OHIO

LOCATION.--Lat 39°20'31", long 82°58'27", Ross County, at center of Bridge Street Bridge on U.S. Highway 23 at north end of Chillicothe, 450 ft upstream from gaging station.
DRAINAGE AREA.--3,849 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1951, May 1965 to September 1969.
Water temperatures: October 1950 to September 1951, October 1953 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 870 micromhos Oct. 24; minimum, 220 micromhos Aug. 10.
Water temperatures: Maximum, 28°C July 18; minimum, 1°C Dec. 26, 27, Jan. 1-9, 11-16, 20, 21, 27-29.
EXTREMES, 1950-51, 1953-69.--Specific conductance (1950-51, 1965-66, 1968-69): Maximum, 1,040 micromhos Feb. 9, 1966; minimum, 220 micromhos Aug. 10, 1969.
Dissolved oxygen (1965-67): Maximum, 15.0 mg/l or greater on several days during June 1966, June and July 1967; minimum, 0.0 mg/l Apr. 27, Aug. 12, Sept. 22, 1966.
Water temperatures: Maximum, 32°C July 14, 1954, Aug. 2, 3, 1955; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since May 1965. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on the maximum specific conductance and the minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
15...	1030	396	272	0	104	34	.9	7.3	424	308	84	730
25...	1115	396	298	0	134	43	1.2	9.0	516	326	82	884
NOV.												
04...	1030	412	284	0	127	41	1.3	15	540	335	102	855
18...	1515	1960	216	0	95	34	.8	10	406	270	92	627
DEC.												
04...	1030	2490	224	0	108	32	.4	11	464	300	116	675
26...	1030	3300	212	0	102	33	.3	19	440	300	126	650
JAN.												
02...	0945	8000	138	0	61	20	.3	19	286	197	84	439
13...	0920	1100	252	0	99	43	.4	18	450	330	123	745
FEB.												
01...	0900	25700	108	0	53	13	.2	17	248	164	76	364
25...	1045	2140	262	0	103	26	.4	16	440	324	109	704
MAR.												
19...	1425	1300	264	0	114	32	.5	18	460	334	117	730
26...	1200	3850	210	0	106	28	.3	12	406	300	128	649
APR.												
01...	1400	5790	220	0	118	28	.4	14	414	320	140	673
23...	1930	10900	136	8	64	16	.3	20	288	208	83	460
MAY												
05...	1215	1780	238	0	95	24	.4	15	406	308	113	650
26...	1220	9090	152	0	52	14	.1	20	284	200	75	421
JUNE												
10...	1230	1530	210	0	90	22	.4	16	410	310	138	659
25...	0945	11000	154	0	51	12	.3	22	274	200	74	413
JULY												
14...	0930	4080	190	6	70	16	.4	19	326	260	94	531
25...	1100	7420	166	0	54	13	.4	12	256	202	66	434
AUG.												
13...	1015	5460	192	0	48	13	.3	12	262	217	60	444
30...	1330	711	280	0	92	30	.3	16	442	336	106	720
SEPT.												
10...	1015	1420	244	0	116	43	.9	18	462	339	139	772
24...	1210	820	230	0	106	30	.9	12	396	308	119	671

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3-2315. SCIOTO RIVER AT CHILLICOTHE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	770	750	810	790	590	560	470	440	380	360	700	690
2	810	770	800	780	660	590	460	430	390	380	710	700
3	820	800	800	780	680	650	510	440	410	390	710	690
4	830	820	820	800	680	660	550	470	410	400	710	690
5	830	810	800	790	680	650	490	410	420	410	710	700
6	850	820	800	780	660	640	600	400	450	420	720	710
7	850	780	800	790	690	660	620	590	480	450	720	710
8	780	720	800	790	710	690	640	540	500	480	720	720
9	740	720	810	800	720	700	660	630	490	390	720	710
10	720	710	800	780	720	710	680	660	430	400	730	710
11	750	710	810	790	730	720	680	620	490	430	730	720
12	780	750	800	740	740	730	730	530	540	490	720	710
13	770	740	740	720	740	730	740	530	560	540	730	710
14	760	730	740	720	750	740	730	720	590	560	740	720
15	750	730	760	730	750	740	740	730	600	580	750	740
16	780	750	760	730	750	740	740	730	630	600	750	740
17	790	780	750	690	760	750	740	730	650	630	760	750
18	790	760	740	600	750	740	740	600	650	640	760	750
19	770	760	600	590	760	740	600	460	660	650	760	730
20	780	770	630	600	750	700	500	430	670	660	740	720
21	780	770	630	620	730	700	520	500	680	670	740	730
22	790	770	640	630	720	700	500	450	680	680	750	720
23	800	780	640	630	700	630	460	450	700	680	730	710
24	870	800	650	640	630	580	480	460	710	690	720	710
25	860	800	680	650	630	590	520	480	710	700	730	720
26	820	760	690	660	660	630	490	480	700	690	720	690
27	760	760	670	660	660	650	490	480	710	700	700	660
28	780	760	670	640	660	520	550	490	710	700	660	640
29	770	760	710	640	520	450	570	430	---	---	650	640
30	790	770	680	570	510	450	430	360	---	---	660	650
31	800	780	---	---	530	470	370	370	---	---	670	660

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	680	660	630	600	630	600	---	---	560	530	710	640
2	670	660	630	630	620	610	---	---	580	560	820	700
3	670	650	640	630	630	620	---	---	600	580	760	710
4	680	660	650	640	650	630	---	---	630	600	750	670
5	680	670	660	650	660	640	---	---	640	610	770	720
6	670	550	660	590	640	630	---	---	660	640	770	760
7	630	540	670	650	650	630	---	---	670	660	770	730
8	580	530	680	650	650	640	---	---	680	620	760	730
9	570	550	680	580	650	640	---	---	680	570	820	750
10	550	540	610	470	670	640	---	---	580	220	810	780
11	550	540	550	470	680	670	---	---	320	270	790	680
12	560	550	530	480	690	670	---	---	450	320	720	630
13	590	560	550	520	680	660	---	---	470	440	700	630
14	600	590	570	550	660	570	550	530	480	450	710	660
15	610	510	570	560	570	500	580	550	550	480	720	680
16	620	600	580	570	590	540	580	560	620	550	750	710
17	630	610	600	580	610	560	610	580	660	590	780	710
18	620	600	610	600	620	610	630	610	660	640	750	700
19	600	450	620	580	640	620	640	630	700	630	770	740
20	480	460	580	410	670	640	660	640	730	670	820	720
21	500	470	420	390	680	670	660	370	730	650	660	660
22	490	450	390	380	690	680	490	370	680	570	610	610
23	480	460	420	390	700	660	540	480	620	550	620	620
24	500	480	420	410	680	330	530	420	610	560	610	610
25	510	500	420	410	420	350	440	390	640	580	620	620
26	510	500	420	410	440	380	470	430	640	590	670	670
27	530	500	420	410	540	440	520	470	670	590	690	690
28	560	530	450	420	560	540	560	500	670	640	700	700
29	580	560	510	450	550	520	500	460	700	650	700	700
30	600	580	570	510	---	---	510	480	720	650	700	700
31	---	---	610	570	---	---	530	510	720	560	---	---

3-2315. SCIOTO RIVER AT CHILLICOTHE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.5	3.7	9.1	6.5	---	---	12.6	12.2	13.3	12.7	11.4	10.5
2	6.5	4.0	9.0	6.2	---	---	13.3	12.6	13.3	13.1	10.6	10.1
3	6.1	3.9	7.7	4.7	---	---	---	---	13.4	13.1	10.2	9.8
4	4.7	3.2	7.0	3.8	---	---	---	---	13.9	13.3	9.8	9.3
5	5.5	3.3	8.6	5.1	---	---	---	---	14.3	13.9	10.1	9.6
6	4.8	3.6	6.1	4.8	---	---	---	---	14.2	13.7	9.9	9.3
7	5.2	3.4	6.0	4.5	---	---	---	---	13.8	13.2	9.7	9.3
8	5.1	4.2	6.0	4.7	---	---	---	---	13.3	12.8	10.0	9.5
9	5.4	4.3	5.4	4.6	---	---	---	---	12.9	12.3	10.5	9.3
10	5.8	4.3	6.5	5.1	---	---	---	---	14.0	12.9	11.0	9.4
11	5.3	3.9	6.2	5.3	---	---	---	---	14.0	13.3	11.2	9.5
12	5.3	3.9	6.7	5.4	---	---	---	---	13.5	12.9	12.8	10.3
13	5.2	3.6	7.7	6.1	---	---	---	---	13.1	12.9	12.4	10.6
14	5.9	3.6	8.0	6.6	---	---	---	---	13.2	12.5	12.0	10.4
15	6.0	3.6	8.0	6.0	---	---	---	---	13.0	12.6	12.8	11.0
16	5.9	3.5	6.6	4.4	---	---	---	---	12.8	12.3	13.6	10.9
17	6.0	3.1	5.8	4.1	---	---	---	---	12.5	11.9	14.3	11.1
18	4.6	2.9	6.9	4.3	---	---	---	---	11.9	11.5	15.0	12.4
19	5.2	2.8	7.8	6.9	---	---	---	---	11.8	10.7	15.0	13.1
20	5.2	3.1	8.0	7.2	---	---	---	---	10.8	10.3	14.8	10.4
21	5.1	3.3	8.4	8.0	---	---	---	---	10.4	10.1	14.0	8.8
22	6.0	3.4	8.2	8.0	---	---	---	---	10.2	9.8	15.0	9.3
23	7.1	4.7	9.0	8.2	---	---	---	---	9.8	9.1	15.0	11.0
24	5.4	---	8.4	8.0	---	---	10.5	10.2	9.4	8.8	14.1	10.3
25	5.5	---	---	7.9	---	---	11.8	10.5	9.5	6.4	11.3	8.6
26	6.1	2.6	---	---	13.1	12.4	13.6	11.8	10.9	8.2	8.6	7.8
27	8.8	6.1	---	---	13.3	12.5	14.5	13.6	11.4	10.9	9.8	8.3
28	8.4	6.8	---	---	12.5	10.1	14.3	14.1	11.7	11.0	11.0	8.4
29	8.5	6.6	---	---	11.6	10.0	14.1	13.3	---	---	10.9	10.2
30	8.8	6.7	---	---	12.3	11.6	13.4	12.8	---	---	11.4	10.3
31	8.9	6.6	---	---	12.5	12.3	12.8	12.6	---	---	11.7	10.3

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.8	11.0	7.8	7.3	9.0	4.5	---	---	---	---	---	---
2	11.0	10.2	7.7	7.2	8.1	6.8	---	---	---	---	6.5	4.3
3	11.1	9.6	7.6	6.6	9.8	5.5	---	---	---	---	4.6	3.1
4	10.5	9.4	7.4	6.1	9.0	5.2	---	---	---	---	3.9	2.6
5	9.5	8.2	8.6	4.1	8.1	4.9	---	---	---	---	4.3	2.7
6	8.2	6.9	9.9	6.6	8.7	5.3	---	---	---	---	5.6	2.7
7	9.3	8.8	10.7	6.5	5.8	4.2	---	---	---	---	6.8	3.6
8	9.5	8.9	9.3	6.2	7.5	4.6	---	---	---	---	5.5	3.3
9	8.9	8.3	6.6	1.6	6.8	4.8	---	---	---	---	4.3	3.0
10	8.3	7.4	6.6	1.5	7.6	4.6	---	---	---	---	3.8	2.4
11	7.4	6.9	7.3	6.6	10.1	5.9	---	---	---	---	---	---
12	7.0	6.6	9.5	7.1	6.7	5.2	---	---	---	---	---	---
13	7.0	6.7	9.5	9.0	5.6	4.0	---	---	---	---	---	---
14	6.9	6.2	9.0	8.3	4.0	2.4	5.6	4.6	---	---	---	---
15	6.8	6.5	8.3	7.7	4.0	3.4	5.0	4.7	---	---	---	---
16	6.8	5.5	7.7	7.2	---	---	5.1	4.9	---	---	---	---
17	6.9	5.4	7.2	6.5	---	---	5.3	4.8	---	---	---	---
18	6.1	5.4	6.6	5.8	---	---	---	---	---	---	5.0	3.3
19	7.6	4.8	6.4	4.7	---	---	---	---	---	---	3.6	2.8
20	9.5	7.6	7.2	4.3	---	---	---	---	---	---	3.3	2.8
21	---	---	6.2	---	---	---	---	---	---	---	4.3	3.0
22	---	---	---	---	---	---	---	---	---	---	5.6	3.6
23	7.5	6.1	---	---	---	---	---	---	---	---	5.0	3.8
24	8.6	7.5	5.9	3.7	---	---	---	---	---	---	4.3	3.5
25	8.8	7.5	6.2	5.9	---	---	---	---	---	---	5.2	3.5
26	8.8	7.9	6.9	6.2	---	---	---	---	---	---	5.5	3.4
27	8.8	8.2	6.7	6.2	---	---	---	---	---	---	5.0	3.6
28	8.2	7.3	6.2	5.6	---	---	---	---	---	---	6.0	3.5
29	7.5	7.2	5.6	4.6	---	---	---	---	---	---	6.4	3.5
30	7.5	7.1	5.2	4.5	---	---	---	---	7.0	4.0	6.5	3.9
31	---	---	6.4	4.4	---	---	---	---	---	---	---	---

3-2315. SCIOTO RIVER AT CHILLICOTHE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	21.0	11.0	10.0	9.0	8.0	3.0	1.0	5.0	4.0	6.0	6.0
2	22.0	21.0	12.0	11.0	8.0	7.0	2.0	1.0	4.0	3.0	6.0	6.0
3	22.0	21.0	13.0	12.0	8.0	8.0	2.0	1.0	5.0	4.0	6.0	5.0
4	21.0	19.0	13.0	12.0	8.0	7.0	2.0	1.0	4.0	3.0	7.0	6.0
5	20.0	19.0	13.0	12.0	8.0	7.0	2.0	1.0	3.0	3.0	7.0	6.0
6	19.0	17.0	13.0	12.0	7.0	5.0	1.0	1.0	3.0	3.0	6.0	6.0
7	18.0	17.0	13.0	12.0	5.0	5.0	2.0	1.0	4.0	3.0	7.0	6.0
8	18.0	17.0	12.0	11.0	5.0	4.0	1.0	1.0	4.0	3.0	6.0	6.0
9	17.0	16.0	11.0	11.0	4.0	3.0	2.0	1.0	4.0	3.0	7.0	6.0
10	18.0	17.0	11.0	10.0	3.0	3.0	2.0	2.0	3.0	2.0	6.0	5.0
11	17.0	16.0	10.0	9.0	3.0	2.0	2.0	1.0	3.0	3.0	5.0	4.0
12	18.0	16.0	9.0	8.0	4.0	3.0	2.0	1.0	4.0	3.0	5.0	3.0
13	18.0	17.0	8.0	8.0	5.0	4.0	1.0	1.0	3.0	3.0	5.0	4.0
14	19.0	17.0	8.0	7.0	6.0	5.0	2.0	1.0	3.0	3.0	5.0	4.0
15	19.0	18.0	8.0	7.0	5.0	4.0	2.0	1.0	3.0	3.0	6.0	4.0
16	19.0	18.0	9.0	8.0	4.0	3.0	3.0	1.0	3.0	3.0	7.0	5.0
17	19.0	18.0	11.0	9.0	3.0	2.0	4.0	3.0	4.0	3.0	7.0	6.0
18	19.0	18.0	11.0	10.0	3.0	2.0	4.0	4.0	5.0	3.0	7.0	6.0
19	19.0	17.0	10.0	9.0	4.0	3.0	4.0	2.0	5.0	4.0	9.0	7.0
20	17.0	16.0	9.0	8.0	4.0	4.0	2.0	1.0	6.0	5.0	9.0	8.0
21	16.0	15.0	8.0	7.0	5.0	4.0	2.0	1.0	6.0	5.0	10.0	9.0
22	15.0	14.0	7.0	6.0	4.0	3.0	2.0	2.0	6.0	6.0	10.0	8.0
23	15.0	13.0	7.0	6.0	5.0	4.0	3.0	2.0	7.0	6.0	9.0	8.0
24	14.0	13.0	8.0	7.0	4.0	3.0	5.0	3.0	7.0	6.0	9.0	9.0
25	13.0	12.0	8.0	8.0	3.0	2.0	5.0	3.0	7.0	6.0	9.0	9.0
26	12.0	11.0	8.0	7.0	2.0	1.0	3.0	2.0	6.0	6.0	8.0	7.0
27	11.0	10.0	8.0	8.0	2.0	1.0	2.0	1.0	6.0	6.0	7.0	7.0
28	11.0	10.0	9.0	8.0	4.0	2.0	1.0	1.0	6.0	5.0	7.0	6.0
29	10.0	9.0	10.0	9.0	4.0	3.0	2.0	1.0	---	---	7.0	6.0
30	11.0	9.0	10.0	9.0	3.0	2.0	4.0	2.0	---	---	8.0	7.0
31	10.0	9.0	---	---	3.0	2.0	5.0	4.0	---	---	7.0	6.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.0	17.0	15.0	23.0	22.0	---	---	25.0	24.0	25.0	23.0
2	8.0	5.0	18.0	16.0	23.0	22.0	---	---	26.0	24.0	25.0	23.0
3	8.0	8.0	19.0	17.0	22.0	20.0	---	---	25.0	24.0	25.0	23.0
4	9.0	8.0	20.0	18.0	21.0	19.0	---	---	26.0	23.0	25.0	23.0
5	11.0	9.0	21.0	19.0	20.0	19.0	---	---	26.0	23.0	24.0	23.0
6	12.0	11.0	21.0	20.0	22.0	20.0	---	---	26.0	23.0	25.0	23.0
7	11.0	9.0	23.0	21.0	22.0	21.0	---	---	26.0	24.0	25.0	23.0
8	11.0	9.0	23.0	22.0	23.0	21.0	---	---	26.0	24.0	24.0	23.0
9	12.0	11.0	22.0	21.0	23.0	21.0	---	---	25.0	22.0	23.0	21.0
10	14.0	12.0	21.0	17.0	23.0	22.0	---	---	22.0	19.0	22.0	20.0
11	15.0	14.0	17.0	16.0	24.0	21.0	---	---	21.0	20.0	21.0	19.0
12	15.0	13.0	16.0	14.0	25.0	21.0	---	---	22.0	21.0	21.0	18.0
13	15.0	14.0	15.0	15.0	25.0	20.0	---	---	23.0	21.0	21.0	18.0
14	16.0	15.0	16.0	15.0	24.0	23.0	25.0	23.0	23.0	22.0	21.0	19.0
15	16.0	16.0	18.0	16.0	23.0	21.0	25.0	23.0	25.0	23.0	21.0	19.0
16	16.0	17.0	19.0	17.0	21.0	20.0	26.0	24.0	25.0	24.0	22.0	19.0
17	17.0	18.0	20.0	19.0	21.0	19.0	27.0	25.0	25.0	24.0	21.0	19.0
18	19.0	18.0	21.0	20.0	20.0	20.0	28.0	25.0	26.0	24.0	21.0	18.0
19	19.0	15.0	21.0	20.0	22.0	19.0	27.0	26.0	25.0	24.0	19.0	18.0
20	15.0	12.0	20.0	18.0	22.0	19.0	27.0	26.0	25.0	23.0	19.0	18.0
21	13.0	12.0	21.0	19.0	23.0	20.0	26.0	23.0	25.0	23.0	21.0	18.0
22	13.0	12.0	20.0	19.0	22.0	20.0	24.0	23.0	24.0	23.0	20.0	18.0
23	12.0	12.0	20.0	19.0	22.0	20.0	24.0	23.0	25.0	23.0	20.0	19.0
24	13.0	11.0	20.0	19.0	21.0	20.0	24.0	23.0	24.0	22.0	19.0	18.0
25	14.0	12.0	20.0	19.0	22.0	19.0	25.0	23.0	25.0	22.0	19.0	18.0
26	14.0	13.0	20.0	18.0	23.0	22.0	26.0	24.0	25.0	23.0	20.0	17.0
27	16.0	14.0	19.0	18.0	24.0	23.0	26.0	24.0	25.0	23.0	18.0	17.0
28	17.0	15.0	20.0	19.0	26.0	24.0	25.0	24.0	25.0	22.0	18.0	16.0
29	17.0	16.0	21.0	19.0	26.0	24.0	24.0	23.0	25.0	23.0	18.0	16.0
30	16.0	15.0	23.0	21.0	---	---	24.0	23.0	26.0	23.0	18.0	16.0
31	---	---	24.0	22.0	---	---	25.0	23.0	26.0	23.0	---	---

3-2340. PAINT CREEK NEAR BOURNEVILLE, OHIO

LOCATION.--Lat 39°15'49", long 83°10'01", Ross County, at gaging station at highway bridge, 1.2 miles southwest of Bourneville, and 1.2 miles upstream from Upper Twin Creek.
DRAINAGE AREA.--807 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969.
Water temperatures: October 1956 to September 1962, October 1965 to September 1969.
Sediment records: October 1956 to September 1962.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 712 micromhos Jan. 16; minimum daily, 309 micromhos Aug. 11.
Water temperatures: Maximum, 31°C July 19; minimum, freezing point on several days during December to February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.										
09...	0800	28	--	--	196	0	41	16	.1	4.5
16...	1400	32	160	60	--	--	--	--	--	--
19...	0800	28	--	--	312	0	39	16	.2	3.1
30...	0800	29	--	--	320	0	46	18	.2	5.7
NOV.										
02...	0800	27	--	--	324	0	44	16	.3	4.1
14...	0900	369	60	20	--	--	--	--	--	--
15...	0800	369	--	--	192	0	22	9.0	.3	2.8
20...	0800	502	--	--	212	0	33	16	.3	4.0
DEC.										
07...	0800	640	--	--	228	16	59	20	.2	21
10...	1100	280	100	40	--	--	--	--	--	--
20...	0800	280	--	--	316	0	63	20	.2	16
30...	0800	4050	--	--	136	0	36	12	.1	20
JAN.										
16...	0800	150	--	--	306	6	66	23	.3	20
27...	1210	800	80	10	--	--	--	--	--	--
29...	0800	1500	--	--	222	0	47	14	.3	16
31...	0800	7610	--	--	120	0	31	10	.3	19
FEB.										
10...	0800	5040	--	--	120	0	32	12	.2	18
14...	0800	960	--	--	226	0	52	15	.3	24
25...	--	--	90	40	--	--	--	--	--	--
28...	0800	368	--	--	280	0	59	17	.2	18
MAR.										
01...	0800	432	--	--	280	0	58	18	.3	17
19...	--	174	90	40	--	--	--	--	--	--
APR.										
04...	0800	393	--	--	268	0	60	17	.3	16
19...	0800	3560	--	--	160	0	33	7.0	.2	15
23...	1015	912	30	20	--	--	--	--	--	--
26...	0800	617	--	--	256	0	52	15	.2	15
MAY										
13...	1120	--	90	50	--	--	--	--	--	--
21...	0800	2300	--	--	152	0	30	10	.3	31
24...	0800	642	--	--	220	16	48	14	.3	23
29...	0800	297	--	--	288	0	50	14	.3	21
JUNE										
01...	0800	218	--	--	274	0	52	17	.3	21
18...	0800	421	--	--	256	0	49	18	.3	26
19...	1100	334	130	50	--	--	--	--	--	--
27...	0800	1620	--	--	150	0	30	8.3	.3	21
JULY										
11...	0800	209	--	--	296	0	53	18	.4	17
14...	0800	315	--	--	210	0	38	12	.4	11
15...	1045	211	180	40	--	--	--	--	--	--
30...	0800	92	--	--	282	0	45	17	.6	12
AUG.										
06...	0800	52	--	--	242	0	50	19	.3	6.0
11...	0800	825	--	--	132	0	26	8.9	.2	6.5
20...	1100	136	70	40	--	--	--	--	--	--
21...	0800	120	--	--	288	0	44	14	.3	8.5
SEPT.										
04...	0800	35	--	--	276	0	49	16	.3	2.8
08...	0800	74	--	--	216	0	43	13	.2	3.6
23...	1100	27	--	--	--	--	--	--	--	--
30...	0800	25	--	--	304	0	46	17	.2	3.5

3-2340. PAINT CREEK NEAR BOURNEVILLE, OHIO--Continued

EXTREMES, 1956-62, 1965-69.--Specific conductance (1965-69): Maximum daily, 730 micromhos Jan. 11, 12, 1968; minimum daily, 239 micromhos May 27, 1968.
Water temperatures: Maximum, 31°C July 19, 1969; minimum, freezing point on many days days during winter period.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water. Samples for iron and manganese were filtered clear when collected. Flow slightly regulated by Rocky Fork Lake 23 miles upstream since 1952.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
09...	.02	260	205	44	457	8.1	15	--	--
16...	--	--	--	--	--	--	18	10.0	105
19...	.11	338	305	49	581	7.5	13	--	--
30...	.10	362	305	42	614	7.6	6	--	--
NOV.									
02...	.06	344	310	44	612	7.7	15	--	--
14...	--	--	--	--	--	--	7	1.0	83
15...	.19	222	180	22	359	7.7	10	--	--
20...	.53	254	215	42	438	7.6	6	--	--
DEC.									
07...	.20	400	305	91	595	8.5	5	--	--
10...	--	--	--	--	--	--	1	12.2	86
20...	.27	438	340	80	670	8.0	2	--	--
30...	.30	256	174	62	366	7.3	3	--	--
JAN.									
16...	.30	400	355	94	712	8.3	0	--	--
27...	--	--	--	--	--	--	0	13.6	93
29...	.21	282	250	68	492	8.1	4	--	--
31...	.44	190	152	54	313	7.4	5	--	--
FEB.									
10...	.31	224	150	52	325	7.1	4	--	--
14...	.16	334	266	80	529	7.6	2	--	--
25...	--	--	--	--	--	--	7	12.2	100
28...	.22	396	310	80	613	7.8	1	--	--
MAR.									
01...	.12	386	315	85	614	7.7	1	--	--
19...	--	--	--	--	--	--	11	14.2	128
APR.									
04...	.15	376	300	80	591	7.7	10	--	--
19...	.48	254	178	47	368	7.1	17	--	--
23...	--	--	--	--	--	--	12	10.1	94
26...	.15	366	283	72	554	7.8	15	--	--
MAY									
13...	--	--	--	--	--	--	14	9.2	88
21...	.56	256	180	56	389	7.7	18	--	--
24...	.39	358	275	68	549	8.6	20	--	--
29...	.27	370	305	68	601	7.8	22	--	--
JUNE									
01...	.00	362	302	77	604	8.2	25	--	--
18...	.34	354	290	80	572	8.2	22	--	--
19...	--	--	--	--	--	--	20	9.0	98
27...	.50	222	168	45	346	7.4	26	--	--
JULY									
11...	.60	376	316	73	619	7.6	26	--	--
14...	.36	268	224	52	454	7.2	26	--	--
15...	--	--	--	--	--	--	25	7.2	86
30...	.36	298	293	62	577	8.1	25	--	--
AUG.									
06...	.22	424	262	63	625	7.2	22	--	--
11...	.55	190	138	30	309	7.5	20	--	--
20...	--	--	--	--	--	--	24	7.2	85
21...	.52	356	294	58	560	7.5	22	--	--
SEPT.									
04...	.15	330	298	72	560	7.6	25	--	--
08...	.21	254	232	55	441	7.4	24	--	--
23...	--	--	--	--	--	--	18	6.6	69
30...	1.3	342	315	66	596	7.6	18	--	--

3-2340. PAINT CREEK NEAR BOURNEVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	564	612	521	487	343	614	586	555	604	563	586	528
2.....	469	612	508	--	412	588	590	555	600	593	602	550
3.....	558	610	518	543	471	537	590	552	602	581	603	510
4.....	493	606	590	--	484	522	591	556	585	602	569	560
5.....	576	471	631	--	496	543	586	543	584	608	567	574
6.....	576	604	614	--	501	550	554	560	588	611	625	484
7.....	576	607	595	--	501	599	566	555	593	614	524	592
8.....	574	562	597	--	507	592	549	543	597	616	523	441
9.....	457	420	--	--	448	598	573	424	578	619	490	507
10.....	579	379	632	--	325	597	579	462	572	587	422	570
11.....	586	380	631	--	385	598	574	467	550	619	309	592
12.....	597	377	641	--	463	590	588	524	533	548	359	567
13.....	590	366	658	--	508	589	588	524	397	546	412	594
14.....	593	366	664	--	529	529	586	546	356	454	438	577
15.....	569	359	660	--	529	520	574	534	450	568	474	566
16.....	594	359	--	712	545	527	557	546	467	564	498	557
17.....	590	399	669	675	552	529	542	552	522	552	523	566
18.....	577	398	668	384	547	563	560	542	565	548	564	498
19.....	581	434	663	387	594	588	368	490	572	599	559	547
20.....	590	438	670	349	595	589	492	552	592	598	580	544
21.....	596	443	631	390	602	591	532	389	592	606	560	548
22.....	607	444	559	474	612	590	531	429	588	578	570	507
23.....	609	433	566	493	606	598	521	515	593	563	581	559
24.....	563	412	555	517	610	580	547	549	594	477	578	556
25.....	606	410	562	529	606	496	545	552	518	521	587	576
26.....	610	431	560	538	608	497	554	585	393	566	583	573
27.....	504	438	571	525	610	557	548	580	346	555	564	571
28.....	528	483	470	529	613	571	542	598	385	577	562	580
29.....	610	484	436	492	--	572	541	601	448	575	524	593
30.....	614	487	366	327	--	580	533	581	513	577	541	596
31.....	612	--	420	313	--	590	--	599	--	576	530	--
AVERAGE	572	460	580	--	521	567	552	534	529	572	529	552

MAXIMUM VALUE = 712 MINIMUM VALUE = 309

3-2340. PAINT CREEK NEAR BOURNEVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	19	19	19	15	10	12	15	15	15	15	10	15	17	14	19	19	20	17	13	19	14	15	15	15	12	10	12	6	6	6	6	14
NOVEMBER.	10	15	15	12	12	12	12	12	7	7	7	7	6	6	10	10	10	10	8	6	5	6	5	5	6	6	6	6	6	6	--	8
DECEMBER.	8	9	8	7	7	3	5	2	--	0	0	5	5	1	0	--	1	1	3	2	0	3	1	1	0	0	0	3	2	3	5	3
JANUARY..	0	--	0	--	--	--	--	--	--	--	--	--	--	--	--	0	5	1	1	1	3	4	5	2	2	0	0	4	4	--	5	--
FEBRUARY.	5	3	3	1	3	5	3	4	3	4	2	2	1	2	0	1	1	4	4	3	5	4	5	6	4	3	3	1	--	--	--	3
MARCH....	1	5	3	2	1	2	4	5	4	3	2	2	2	3	2	3	2	4	5	--	4	4	4	5	5	5	5	5	6	5	5	4
APRIL....	6	10	6	10	12	10	15	10	15	15	12	12	14	15	15	16	17	18	17	12	15	13	10	15	12	15	16	13	15	14	--	13
MAY.....	14	15	20	17	15	17	18	18	13	14	14	15	15	18	18	--	20	20	20	20	18	20	20	20	18	18	19	20	22	24	21	18
JUNE.....	25	24	18	19	20	20	20	24	20	22	23	25	21	25	23	20	14	19	22	20	20	21	21	25	26	25	26	27	20	25	--	22
JULY.....	25	24	24	26	26	26	25	25	26	26	26	25	25	26	26	28	30	28	31	30	25	25	26	25	24	24	25	25	25	25	25	26
AUGUST...	24	25	25	24	22	22	24	25	25	20	20	20	21	21	24	24	23	24	24	23	22	22	23	22	22	25	22	22	23	24	24	23
SEPTEMBER	25	25	25	25	25	24	24	24	21	18	20	18	18	19	20	20	25	20	19	19	19	18	20	19	20	18	18	15	15	18	--	20

MAXIMUM VALUE = 31 MINIMUM VALUE = 0

3-2345. SCIOTO RIVER AT HIGBY, OHIO

LOCATION.--Lat 39°12'44", long 82°51'50", in sec. 6, T.7 N., R.20 W., Ross County, at gaging station at highway bridge, 0.8 mile downstream from Walnut Creek, and 1.2 miles north of Higby.
DRAINAGE AREA.--5,131 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1967 to September 1969.
Water temperatures: October 1953 to September 1969.
Sediment records: October 1953 to September 1969.
EXTREMES, 1968-69.--Sediment concentrations: Maximum daily, 1,260 mg/l Jan. 30; minimum daily, 8 mg/l Sept. 19.
Sediment loads: Maximum daily, 85,700 tons Jan. 30; minimum daily, 20 tons Sept. 19.
EXTREMES, 1953-69.--Water temperatures (1953-67): Maximum, 34°C June 29, 1966; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 2,130 mg/l July 21, 1954; minimum daily, 1 mg/l on several days during 1955-56.
Sediment loads: Maximum daily, 550,000 tons Jan. 23, 1959; minimum daily, 0.82 ton Sept. 8, 1955.
REMARKS.--Continuous water quality recorder operated since March 1967. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Daily sediment loads were computed by subdivision on Nov. 17, 29, Dec. 28, Jan. 18, 19, 29, Feb. 9, Mar. 24, Apr. 6, 18, May 9, 20, June 13, 24, Aug. 10. Flow slightly regulated by O'Shaughnessy, Griggs, Delaware, Hoover, Rocky Fork and Deer Creek Reservoirs.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
17...	1400	645	278	0	113	52	.7	7.4	480	317	88	822
25...	1300	645	254	0	129	63	.8	17	558	334	126	897
NOV.												
06...	1300	638	308	0	122	54	.9	.9	516	331	78	886
25...	1445	2010	238	0	88	36	.4	8.7	384	274	78	636
JAN.												
20...	1330	15600	134	0	57	24	.2	14	280	186	76	433
24...	1140	7370	148	0	62	48	.2	12	374	234	113	548
FEB.												
01...	1030	31300	120	0	50	14	.2	15	244	168	70	369
25...	1100	2910	266	0	94	30	.3	13	438	338	120	706
MAR.												
18...	1710	1720	278	0	108	40	.5	2.3	442	334	106	742
25...	1100	3910	218	0	97	27	.4	9.4	374	282	103	601
APR.												
01...	1110	6420	224	0	116	30	.3	13	412	325	141	678
23...	1045	13100	172	0	65	16	.3	17	304	224	83	481
MAY												
05...	1035	2640	245	0	92	29	.4	15	390	308	107	649
21...	1100	19400	162	0	61	12	.1	24	274	218	85	438
JUNE												
12...	1130	2530	245	0	99	30	.4	12	436	310	109	677
30...	1045	5140	206	0	66	19	.4	19	350	256	87	548
JULY												
08...	1115	2910	230	0	72	21	.4	15	352	276	87	595
14...	1200	4670	180	0	61	18	.3	16	302	222	74	483
AUG.												
07...	1030	1350	264	0	88	37	.5	11	452	308	91	708
14...	1305	4080	196	0	50	16	.3	10	314	218	58	476
SEPT.												
02...	1015	780	276	0	88	31	.5	6.6	442	304	78	696
10...	1110	1580	240	0	128	52	1.2	20	542	320	123	836

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	830	820	---	---	600	560	510	430	380	320	700	680
2	860	820	---	---	610	580	470	340	---	---	---	---
3	860	830	---	---	620	610	520	470	---	---	---	---
4	850	820	---	---	620	600	---	---	---	---	---	---
5	870	830	---	---	600	580	---	---	---	---	---	---
6	870	810	890	860	600	580	---	---	---	---	---	---
7	890	860	870	850	620	590	---	---	---	---	---	---
8	910	880	860	850	630	610	---	---	---	---	---	---
9	890	800	860	800	640	620	---	---	---	---	---	---
10	800	790	---	---	700	640	---	---	---	---	---	---
11	810	800	---	---	710	690	---	---	---	---	---	---
12	---	---	760	750	700	680	---	---	---	---	---	---
13	---	---	770	730	720	690	---	---	---	---	---	---
14	---	---	730	720	720	670	---	---	---	---	---	---
15	---	---	720	680	730	720	---	---	---	---	---	---
16	---	---	710	690	750	730	---	---	---	---	---	---
17	860	820	750	700	760	740	---	---	---	---	---	---
18	850	790	730	680	770	750	---	---	---	---	---	---
19	880	790	680	620	780	730	---	---	---	---	---	---
20	840	820	650	640	730	720	460	430	700	640	---	---
21	850	820	660	630	730	710	530	460	670	650	---	---
22	880	850	660	640	730	650	520	490	680	660	---	---
23	890	880	660	630	660	590	530	500	690	650	---	---
24	880	850	670	630	610	590	550	530	700	690	---	---
25	910	880	670	630	600	590	570	530	710	680	620	600
26	930	910	690	660	700	600	550	520	710	690	650	610
27	940	900	690	650	630	590	520	500	710	690	670	640
28	920	890	680	630	640	440	580	520	710	680	---	---
29	---	---	660	620	490	360	560	440	---	---	---	---
30	---	---	670	600	450	340	450	330	---	---	---	---
31	---	---	---	---	460	410	360	330	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	690	670	610	590	620	610	550	540	570	460	760	670
2	670	540	620	600	680	610	550	550	530	470	730	700
3	650	600	620	560	640	620	550	530	510	460	780	730
4	600	580	600	560	630	610	570	520	530	490	780	730
5	600	560	670	600	630	610	610	560	650	500	770	700
6	580	460	660	620	650	570	600	570	620	570	760	720
7	530	460	660	620	590	570	630	570	710	570	780	750
8	---	---	650	620	600	590	630	570	630	600	800	780
9	---	---	650	580	620	600	600	570	670	610	800	760
10	---	---	620	480	680	620	580	530	640	350	830	800
11	---	---	540	440	690	660	530	500	400	390	800	780
12	---	---	550	480	680	630	520	460	460	400	780	720
13	---	---	540	520	650	520	490	420	---	---	730	720
14	610	570	550	530	520	480	460	420	490	460	740	720
15	600	560	570	550	490	460	490	460	540	490	760	740
16	600	560	600	570	560	490	---	---	590	540	780	760
17	600	560	600	580	600	560	---	---	640	590	800	780
18	560	420	620	600	620	600	530	500	680	640	790	780
19	460	380	640	590	640	620	520	500	---	---	790	770
20	430	380	630	400	660	620	520	500	710	700	800	780
21	440	420	440	370	640	580	---	---	730	710	830	760
22	470	440	380	330	620	580	---	---	730	640	760	720
23	480	470	410	340	640	620	---	---	670	640	720	700
24	480	470	430	370	640	370	---	---	650	640	730	700
25	500	480	410	390	410	370	---	---	650	620	740	710
26	520	500	450	390	400	370	---	---	640	580	710	690
27	520	510	450	440	490	400	---	---	620	560	730	710
28	560	520	470	450	530	490	---	---	640	620	740	720
29	590	540	530	470	560	530	520	430	720	640	760	720
30	600	590	580	520	550	530	470	420	740	720	750	720
31	---	---	610	550	---	---	460	450	770	740	---	---

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.9	7.5	---	---	7.6	7.5	7.1	6.9	7.5	7.4	7.1	7.0
2	7.9	7.8	---	---	7.6	7.5	7.1	6.9	---	---	---	---
3	7.9	7.8	---	---	7.6	7.5	7.1	7.0	---	---	---	---
4	7.9	7.8	---	---	8.1	7.6	---	---	---	---	---	---
5	7.8	7.8	---	---	8.0	8.0	---	---	---	---	---	---
6	7.8	7.6	7.5	7.4	8.1	8.0	---	---	---	---	---	---
7	7.7	7.7	7.4	7.4	8.2	8.1	---	---	---	---	---	---
8	7.7	7.6	7.5	7.4	8.2	8.1	---	---	---	---	---	---
9	7.7	7.3	7.8	7.5	8.2	8.1	---	---	---	---	---	---
10	7.7	7.4	---	---	8.2	8.1	---	---	7.3	---	---	---
11	7.8	7.7	---	---	8.1	8.0	---	---	---	---	---	---
12	---	---	7.6	7.4	8.0	7.9	---	---	---	---	---	---
13	---	---	7.5	7.5	8.5	7.8	---	---	---	---	---	---
14	---	---	7.6	7.5	7.9	7.9	---	---	---	---	---	---
15	---	---	7.7	7.6	7.9	7.8	---	---	---	---	---	---
16	---	---	7.8	7.7	7.9	7.9	---	---	---	---	---	---
17	7.5	7.4	7.9	7.8	8.2	7.9	---	---	---	---	---	---
18	7.7	7.3	7.9	7.8	7.9	7.8	---	---	---	---	---	---
19	7.7	7.6	8.0	7.9	8.0	7.9	---	---	---	---	---	---
20	7.6	7.4	8.0	7.9	8.0	7.9	7.7	7.6	---	7.2	---	---
21	7.5	7.4	7.9	7.9	7.9	7.7	7.6	7.5	7.4	7.1	---	---
22	7.5	7.3	7.9	7.8	7.8	7.7	7.6	7.4	7.2	7.1	---	---
23	7.6	7.5	7.9	7.8	7.9	7.7	7.6	7.4	7.2	7.1	---	---
24	7.5	7.5	7.8	7.8	7.7	7.6	8.2	7.4	7.2	7.1	---	---
25	7.5	6.7	7.8	7.8	7.8	7.6	8.1	7.8	7.2	7.1	8.1	8.0
26	6.8	6.7	7.9	7.8	7.9	7.6	8.0	7.8	7.4	7.1	8.1	8.0
27	6.7	6.6	7.9	7.8	7.8	7.6	8.1	7.8	7.2	7.1	8.0	7.9
28	6.6	6.5	7.8	7.5	7.8	7.3	8.0	7.6	7.2	7.1	---	---
29	---	---	7.5	7.5	7.3	7.1	7.9	7.5	---	---	---	---
30	---	---	7.5	7.5	7.2	7.1	7.5	7.4	---	---	---	---
31	---	---	---	---	7.1	7.1	7.4	7.4	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.8	8.7	7.9	7.7	7.6	7.5	7.7	7.6	7.6	7.4	7.4	7.4
2	8.7	8.5	7.8	7.7	7.6	7.3	7.7	7.6	7.5	7.4	7.7	7.4
3	8.5	8.4	7.8	7.8	7.5	7.3	7.7	7.7	7.4	7.2	7.5	7.4
4	8.5	8.3	7.8	7.7	7.6	7.5	7.9	7.7	7.4	7.3	7.6	7.4
5	8.3	8.2	7.9	7.7	7.7	7.5	7.9	7.8	7.7	7.4	7.4	7.3
6	8.3	8.1	7.9	7.8	8.0	7.7	7.8	7.6	7.7	7.6	7.3	7.3
7	8.2	8.1	7.9	7.8	8.0	7.7	7.7	7.6	7.6	7.5	7.3	7.3
8	---	---	8.0	7.7	7.7	7.6	7.7	7.5	7.6	7.5	7.4	7.3
9	---	---	7.9	7.7	7.7	7.7	7.5	7.5	7.5	7.4	7.4	7.3
10	---	---	7.7	7.6	7.7	7.6	7.6	7.5	7.5	7.3	7.4	7.4
11	---	---	7.8	7.7	8.0	7.7	7.6	7.6	7.3	7.2	---	---
12	---	---	7.8	7.7	8.0	7.7	7.6	7.5	7.4	7.3	---	---
13	---	---	8.0	7.8	7.7	7.5	7.5	7.4	---	---	---	---
14	8.0	7.8	8.0	7.9	7.6	7.5	7.5	7.4	7.5	7.2	---	---
15	8.0	7.9	7.9	7.8	7.6	7.5	7.7	7.5	7.6	7.5	---	---
16	8.0	7.9	7.8	7.7	7.6	7.6	---	---	7.6	7.5	---	---
17	8.0	7.8	7.9	7.7	7.7	7.6	---	---	7.8	7.6	---	---
18	8.1	7.9	7.8	7.7	7.7	7.7	8.0	7.9	7.7	7.5	7.4	7.3
19	8.0	7.9	7.8	7.6	7.7	7.6	8.0	7.9	---	---	7.3	7.3
20	8.1	7.9	7.7	7.5	7.8	7.7	8.0	7.8	7.6	7.5	7.4	7.3
21	8.1	8.1	7.6	7.5	7.9	7.8	---	---	7.6	7.5	7.4	7.3
22	8.1	8.1	7.5	7.5	7.9	7.8	---	---	7.6	7.4	7.4	7.3
23	8.1	8.1	7.6	7.5	8.1	7.8	---	---	7.4	7.4	7.3	7.3
24	8.1	8.1	7.6	7.5	7.9	7.5	---	---	7.6	7.4	7.3	7.3
25	8.1	7.9	7.6	7.5	7.6	7.5	---	---	7.8	7.6	7.3	7.2
26	8.0	7.9	7.6	7.5	7.5	7.5	---	---	8.1	7.5	7.4	7.2
27	7.9	7.8	7.6	7.5	7.6	7.5	---	---	8.3	7.8	7.3	7.2
28	7.8	7.8	7.5	7.3	7.7	7.6	---	---	8.3	8.0	7.3	7.2
29	7.9	7.8	7.5	7.4	7.7	7.6	7.6	7.5	8.2	7.6	7.3	7.2
30	7.9	7.8	7.5	7.4	7.6	7.5	7.7	7.6	7.6	7.4	7.4	7.2
31	---	---	7.5	7.5	---	---	7.6	7.6	7.5	7.4	---	---

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	2.0	0.6	---	---	7.6	6.3	---	---	---	---	---	---
2	1.4	0.6	---	---	8.4	7.5	---	---	---	---	---	---
3	1.1	0.6	---	---	9.6	7.3	---	---	---	---	---	---
4	3.3	0.6	---	---	9.3	5.2	---	---	---	---	---	---
5	3.8	2.4	---	---	10.2	9.2	---	---	---	---	---	---
6	3.1	1.1	---	---	10.4	9.2	---	---	---	---	---	---
7	1.1	0.4	---	---	10.2	9.0	---	---	---	---	---	---
8	0.8	0.4	---	---	10.5	9.5	---	---	---	---	---	---
9	0.6	0.1	---	---	11.6	10.0	---	---	---	---	---	---
10	0.1	0.0	---	---	11.7	9.1	---	---	---	---	---	---
11	0.2	0.1	---	---	10.5	8.8	---	---	---	---	---	---
12	---	---	6.0	5.2	14.8	10.4	---	---	---	---	---	---
13	---	---	6.1	5.6	14.8	14.0	---	---	---	---	---	---
14	---	---	6.2	5.5	---	---	---	---	---	---	---	---
15	---	---	6.5	5.6	---	---	---	---	---	---	---	---
16	---	---	8.1	6.1	---	---	---	---	---	---	---	---
17	0.7	0.5	9.3	6.6	9.6	6.3	---	---	---	---	---	---
18	0.7	0.5	9.8	8.3	6.3	4.9	---	---	---	---	---	---
19	0.6	0.5	9.0	8.1	6.7	4.2	---	---	---	---	---	---
20	0.8	0.6	9.1	8.7	8.2	6.0	14.9	14.1	---	---	---	---
21	1.2	0.0	9.1	8.4	8.7	8.0	14.4	12.4	---	---	---	---
22	0.2	0.0	9.5	8.3	11.1	8.2	13.0	12.7	---	---	---	---
23	---	---	8.9	8.4	11.1	10.3	13.0	12.0	---	---	---	---
24	---	---	8.9	7.5	12.3	10.1	12.0	9.6	---	---	---	---
25	---	---	8.2	7.4	12.3	11.1	11.4	11.4	---	---	---	---
26	0.7	0.6	8.3	7.6	12.3	8.3	---	---	---	---	---	---
27	1.8	0.6	8.7	7.3	11.5	8.2	---	---	---	---	---	---
28	1.2	0.6	9.1	8.4	---	---	---	---	---	---	---	---
29	---	---	8.4	7.1	---	---	---	---	---	---	---	---
30	---	---	7.5	6.3	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.5	6.4	5.6	6.2	3.7	4.8	3.6	4.0	3.5	3.4	1.9
2	10.5	9.7	6.3	5.4	6.2	4.8	4.6	4.3	3.9	2.9	6.8	2.4
3	10.3	9.2	6.6	5.5	7.3	4.5	4.8	3.8	4.2	3.1	4.0	0.5
4	9.8	9.0	5.6	5.1	8.1	5.4	6.4	3.4	5.9	3.3	5.7	2.2
5	9.0	7.5	6.1	4.8	8.1	5.0	6.8	4.9	6.7	2.8	2.2	0.5
6	7.6	7.0	6.3	4.6	8.3	5.3	4.9	3.5	6.3	4.0	2.4	0.3
7	8.2	6.5	6.1	4.4	7.2	3.2	4.6	3.5	4.8	2.7	3.3	0.6
8	---	---	5.2	3.6	4.7	3.2	4.6	3.5	4.1	2.6	2.3	0.2
9	---	---	5.1	3.3	5.5	4.0	3.9	3.4	2.9	1.6	2.9	1.0
10	---	---	4.8	2.5	5.4	4.6	4.5	3.9	3.6	0.4	2.9	1.4
11	---	---	5.9	5.0	8.5	4.5	5.1	4.5	4.1	2.9	3.4	2.0
12	---	---	7.4	5.6	8.8	5.9	4.6	3.8	4.6	4.1	2.6	1.4
13	---	---	8.0	7.4	5.9	1.1	3.8	3.2	---	---	1.9	0.0
14	6.9	6.3	7.8	6.8	4.9	3.5	3.8	2.6	5.2	5.0	2.0	0.4
15	6.8	6.1	6.8	6.5	4.7	3.4	3.7	2.8	5.3	4.9	2.8	1.2
16	7.0	6.6	6.5	5.5	5.1	4.3	---	---	6.0	4.4	2.9	0.5
17	6.8	5.8	5.5	4.4	5.7	4.8	---	---	7.1	4.7	1.5	0.5
18	6.7	4.8	5.4	4.3	5.5	4.9	5.3	3.8	6.4	4.2	2.0	0.2
19	6.7	6.2	5.5	4.7	5.2	4.5	6.0	4.1	---	---	1.4	0.6
20	8.7	6.6	6.0	3.8	5.7	4.5	5.4	3.9	4.7	3.6	1.8	0.5
21	8.7	8.6	6.1	6.0	7.5	4.8	---	---	4.5	3.2	3.0	1.8
22	8.6	8.6	6.0	5.9	6.8	5.3	---	---	4.8	3.2	4.2	2.5
23	8.9	8.7	6.4	5.9	8.9	5.6	---	---	3.6	2.8	3.6	2.2
24	8.9	8.7	6.8	6.4	6.3	2.2	---	---	5.7	2.9	3.2	1.9
25	8.7	8.1	6.3	5.7	5.0	4.4	---	---	7.7	4.5	2.6	1.6
26	8.4	7.9	6.3	5.8	5.1	4.4	---	---	10.2	3.9	4.0	2.1
27	7.9	7.0	6.7	6.2	5.5	5.0	---	---	12.6	5.7	3.0	1.6
28	7.0	6.0	6.3	5.4	5.3	5.0	---	---	12.6	5.7	4.1	1.3
29	6.4	6.0	5.5	4.6	5.2	4.9	3.7	3.1	10.0	3.6	4.3	2.1
30	6.4	6.0	4.9	4.3	5.2	3.9	4.1	3.7	4.5	2.2	2.7	1.0
31	---	---	5.2	3.9	---	---	4.0	3.7	4.4	1.9	---	---

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	21.0	--	--	8.0	7.0	1.0	0.0	5.0	4.0	7.0	6.0
2	22.0	21.0	--	--	8.0	7.0	0.0	0.0	--	--	--	--
3	22.0	21.0	--	--	8.0	7.0	1.0	0.0	--	--	--	--
4	21.0	18.0	--	--	8.0	7.0	--	--	--	--	--	--
5	18.0	17.0	--	--	8.0	6.0	--	--	--	--	--	--
6	17.0	16.0	14.0	14.0	6.0	4.0	--	--	--	--	--	--
7	16.0	16.0	14.0	13.0	4.0	3.0	--	--	--	--	--	--
8	16.0	16.0	14.0	12.0	3.0	2.0	--	--	--	--	--	--
9	17.0	16.0	12.0	11.0	3.0	2.0	--	--	--	--	--	--
10	17.0	17.0	--	--	3.0	2.0	--	--	--	--	--	--
11	17.0	16.0	--	--	3.0	2.0	--	--	--	--	--	--
12	--	--	9.0	8.0	4.0	3.0	--	--	--	--	--	--
13	--	--	9.0	8.0	6.0	4.0	--	--	--	--	--	--
14	--	--	9.0	8.0	6.0	4.0	--	--	--	--	--	--
15	--	--	10.0	9.0	4.0	3.0	--	--	--	--	--	--
16	--	--	11.0	10.0	3.0	2.0	--	--	--	--	--	--
17	21.0	20.0	11.0	11.0	3.0	2.0	--	--	--	--	--	--
18	20.0	20.0	12.0	11.0	3.0	3.0	--	--	--	--	--	--
19	20.0	18.0	11.0	8.0	4.0	3.0	--	--	--	--	--	--
20	18.0	17.0	8.0	7.0	4.0	4.0	1.0	1.0	6.0	5.0	--	--
21	17.0	17.0	7.0	6.0	4.0	3.0	2.0	1.0	7.0	5.0	--	--
22	17.0	16.0	8.0	7.0	4.0	3.0	3.0	2.0	7.0	6.0	--	--
23	16.0	14.0	8.0	7.0	4.0	3.0	4.0	3.0	7.0	7.0	--	--
24	15.0	14.0	9.0	8.0	3.0	2.0	5.0	4.0	7.0	7.0	--	--
25	14.0	13.0	8.0	8.0	2.0	1.0	4.0	3.0	7.0	6.0	9.0	8.0
26	13.0	13.0	8.0	8.0	1.0	0.0	3.0	1.0	6.0	6.0	8.0	7.0
27	13.0	12.0	9.0	8.0	3.0	1.0	1.0	0.0	6.0	5.0	8.0	7.0
28	13.0	12.0	10.0	9.0	4.0	3.0	2.0	1.0	7.0	4.0	--	--
29	--	--	10.0	9.0	4.0	3.0	4.0	2.0	--	--	--	--
30	--	--	9.0	8.0	3.0	2.0	6.0	4.0	--	--	--	--
31	--	--	--	--	2.0	1.0	6.0	5.0	--	--	--	--

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.0	6.0	17.0	14.0	26.0	23.0	28.0	26.0	26.0	24.0	25.0	24.0
2	8.0	7.0	19.0	16.0	26.0	22.0	27.0	24.0	26.0	24.0	25.0	24.0
3	10.0	8.0	21.0	17.0	22.0	21.0	27.0	24.0	26.0	24.0	24.0	23.0
4	12.0	9.0	22.0	19.0	22.0	18.0	27.0	25.0	26.0	24.0	25.0	24.0
5	13.0	12.0	23.0	20.0	21.0	19.0	28.0	26.0	26.0	24.0	26.0	24.0
6	13.0	12.0	24.0	21.0	23.0	20.0	27.0	26.0	26.0	24.0	26.0	24.0
7	12.0	11.0	24.0	22.0	24.0	21.0	27.0	26.0	26.0	24.0	26.0	24.0
8	--	--	24.0	23.0	25.0	22.0	27.0	24.0	26.0	25.0	25.0	24.0
9	--	--	23.0	19.0	24.0	22.0	26.0	24.0	26.0	23.0	24.0	21.0
10	--	--	19.0	16.0	24.0	22.0	26.0	24.0	23.0	20.0	22.0	20.0
11	--	--	16.0	15.0	25.0	23.0	27.0	25.0	21.0	20.0	22.0	20.0
12	--	--	16.0	14.0	26.0	24.0	27.0	24.0	23.0	20.0	21.0	19.0
13	--	--	15.0	14.0	26.0	24.0	26.0	25.0	--	--	21.0	20.0
14	16.0	16.0	17.0	14.0	25.0	24.0	27.0	24.0	25.0	20.0	21.0	20.0
15	16.0	15.0	19.0	16.0	24.0	22.0	27.0	25.0	26.0	23.0	22.0	21.0
16	18.0	16.0	20.0	17.0	22.0	20.0	--	--	26.0	24.0	23.0	21.0
17	19.0	17.0	21.0	19.0	22.0	19.0	--	--	26.0	24.0	23.0	22.0
18	19.0	18.0	21.0	19.0	22.0	21.0	29.0	28.0	25.0	24.0	22.0	21.0
19	18.0	14.0	21.0	20.0	23.0	20.0	29.0	28.0	--	--	21.0	19.0
20	14.0	12.0	19.0	18.0	24.0	21.0	29.0	27.0	25.0	24.0	19.0	19.0
21	12.0	12.0	19.0	18.0	24.0	22.0	--	--	25.0	23.0	21.0	19.0
22	13.0	11.0	18.0	18.0	24.0	23.0	--	--	25.0	23.0	21.0	19.0
23	11.0	11.0	19.0	18.0	24.0	22.0	--	--	25.0	22.0	21.0	21.0
24	12.0	10.0	18.0	18.0	24.0	21.0	--	--	25.0	23.0	21.0	19.0
25	13.0	11.0	19.0	18.0	22.0	21.0	--	--	25.0	23.0	19.0	18.0
26	15.0	13.0	19.0	18.0	23.0	22.0	--	--	25.0	24.0	19.0	18.0
27	17.0	14.0	20.0	17.0	25.0	23.0	--	--	25.0	23.0	19.0	18.0
28	17.0	16.0	21.0	18.0	26.0	24.0	--	--	24.0	23.0	18.0	17.0
29	17.0	15.0	23.0	19.0	27.0	25.0	24.0	24.0	25.0	24.0	18.0	17.0
30	16.0	14.0	24.0	21.0	28.0	25.0	25.0	23.0	26.0	24.0	18.0	17.0
31	--	--	25.0	22.0	--	--	26.0	23.0	26.0	25.0	--	--

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	673	43	78	636	29	50	4760	132	1700
2	670	25	45	641	37	64	4490	79	958
3	679	13	24	651	30	53	4080	57	628
4	849	17	39	640	17	29	3730	19	191
5	880	17	40	634	13	22	4940	17	227
6	781	15	32	642	23	40	7100	17	326
7	746	15	30	679	22	40	6600	31	552
8	724	17	33	765	24	50	5010	25	338
9	738	18	36	928	26	65	3730	14	141
10	718	15	29	918	18	45	2890	17	133
11	688	18	33	859	29	67	2440	17	112
12	690	12	22	848	53	121	2170	20	117
13	675	17	31	841	33	75	2040	33	182
14	666	25	45	858	25	58	1920	88	456
15	654	18	32	875	29	69	1840	82	407
16	651	35	62	1000	23	62	1700	39	179
17	650	27	47	2200	99	673	1570	20	85
18	656	26	46	3160	131	1120	1500	62	251
19	673	38	69	2890	65	507	1650	75	334
20	682	25	46	2980	37	298	2510	60	407
21	668	33	60	2710	35	256	3190	48	413
22	653	19	33	2580	27	188	3300	37	330
23	649	17	30	2400	23	149	4850	92	1200
24	645	21	37	2330	18	113	6690	172	3110
25	646	27	47	2060	18	100	5980	71	1150
26	652	56	99	1940	25	131	4740	50	640
27	661	65	116	1920	24	124	3840	70	726
28	643	27	47	2150	50	290	7840	603	16700
29	629	30	51	3450	141	1410	16900	870	39700
30	632	29	49	5070	206	2820	20000	229	12400
31	637	15	26	--	--	--	20400	138	7600
TOTAL	21258	--	1414	50255	--	9089	164400	--	91693

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	15800	160	6830	31500	372	31600	3180	19	163
2	10300	123	3420	32600	200	17600	3100	18	151
3	6780	47	860	24900	176	11800	2920	20	158
4	5170	53	740	19600	182	9630	2710	32	234
5	3970	50	536	17500	138	6520	2580	45	313
6	3370	55	500	13600	121	4440	2400	28	181
7	3180	34	292	10300	102	2840	2310	15	94
8	2780	12	90	9130	72	1770	2280	14	86
9	2710	9	66	15200	395	17000	2190	18	106
10	2470	16	107	19100	354	18300	2150	41	238
11	2220	26	156	15700	180	7630	2280	72	443
12	1990	39	210	11300	105	3200	2240	30	181
13	1840	64	318	8580	55	1270	2130	16	92
14	1750	71	335	6760	77	1410	1990	17	91
15	1700	55	252	5520	58	864	1920	17	88
16	1650	41	183	4580	31	383	1860	17	85
17	1690	40	183	4060	30	329	1750	22	104
18	3820	48	529	3880	23	241	1740	28	132
19	12100	369	12400	3570	26	251	1720	28	130
20	15400	270	11200	3320	27	242	1690	35	160
21	13900	180	6760	3120	25	211	1670	40	180
22	10500	138	3910	2980	20	161	1670	33	149
23	8110	105	2300	2890	21	164	1670	35	158
24	7420	92	1840	2910	25	196	2330	138	999
25	8090	89	1940	2920	20	158	3930	225	2390
26	8140	75	1650	3010	17	138	4830	130	1700
27	6220	50	840	3140	13	110	6880	110	2040
28	4980	66	887	3230	19	166	6790	92	1690
29	8860	559	20000	--	--	--	5820	134	2110
30	25200	1260	85700	--	--	--	4980	138	1860
31	29700	540	43300	--	--	--	5950	62	996
TOTAL	231810	--	208334	284900	--	138624	91660	--	17502

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	6330	47	803	3750	62	628	2380	52	334
2	4870	43	565	3410	100	921	2220	60	360
3	4060	45	493	3100	70	586	2240	57	345
4	3610	52	507	2870	50	387	2560	60	415
5	3500	47	444	2640	62	442	2960	64	511
6	5970	296	5270	2470	58	387	2980	62	499
7	11300	411	12500	2370	55	352	2820	60	457
8	13400	196	7090	2310	53	331	2510	52	352
9	12100	120	3920	3930	421	5400	2260	45	275
10	9310	122	3070	7750	708	14800	2060	48	267
11	6650	122	2190	8090	335	7320	2400	60	389
12	5260	104	1480	10400	221	6210	2530	65	444
13	4310	90	1050	9820	142	3760	3540	913	10400
14	3700	82	819	8290	110	2460	5350	625	9030
15	3520	88	836	6760	75	1370	4450	766	9200
16	3720	87	874	5030	80	1090	3970	335	3590
17	3430	67	620	3910	62	655	4180	200	2260
18	4260	280	4060	3320	48	430	3970	135	1450
19	11900	669	21500	3610	57	556	3450	102	950
20	17000	398	18300	12800	342	12500	2920	92	725
21	18900	281	14300	19400	297	15600	2490	96	645
22	16400	201	8900	22900	158	9770	2170	72	422
23	13000	142	4980	19500	248	13100	2010	69	374
24	11300	149	4550	15500	235	9830	8940	706	20100
25	10500	147	4170	12200	175	5760	12800	715	24700
26	9870	164	4370	10000	159	4290	15900	395	17000
27	7840	128	2710	8450	147	3350	15500	180	7530
28	5370	97	1410	6580	136	2420	11800	148	4720
29	4530	87	1060	4260	104	1200	8470	219	5010
30	4110	78	866	3120	66	556	5230	173	2440
31	--	--	--	2650	50	358	--	--	--
TOTAL	240020	--	133707	231190	--	126819	147060	--	125194

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	3930	115	1220	2740	72	533	885	15	36
2	3430	90	833	2220	53	318	780	27	57
3	2920	73	576	1890	45	230	916	20	49
4	2640	67	478	1640	40	177	900	15	36
5	2600	95	667	1520	38	156	825	18	40
6	2130	98	564	1430	37	143	795	15	32
7	2740	92	681	1330	28	101	840	18	41
8	3190	143	1230	1270	43	147	1040	33	93
9	4830	230	3000	1360	62	228	1220	42	138
10	6220	232	3900	9400	744	22700	1600	36	156
11	6780	188	3440	11700	596	18800	1580	36	154
12	7600	263	5400	6990	256	4830	1350	38	139
13	7500	645	13100	5140	168	2330	1110	47	141
14	4720	286	3640	4150	120	1340	964	20	52
15	3900	257	2710	3120	70	590	810	14	31
16	3190	218	1880	2310	50	312	750	20	41
17	2580	155	1080	1960	44	233	720	17	33
18	2190	46	272	1810	47	230	720	12	23
19	1990	93	500	1750	41	194	948	8	20
20	2080	74	416	1800	43	209	1300	44	154
21	6020	110	1790	1980	48	257	1810	42	205
22	8610	150	3490	2620	117	828	1480	28	112
23	9640	144	3750	2260	69	421	1170	32	101
24	9760	197	5190	1690	30	137	1040	37	104
25	7730	234	4880	1450	23	90	980	42	111
26	4990	205	2760	1280	27	93	1010	23	63
27	3340	167	1510	1160	42	132	885	32	76
28	3390	139	1270	1060	45	129	810	42	92
29	4110	138	1530	1010	23	63	885	30	72
30	3610	114	1110	964	12	31	840	23	52
31	3050	118	972	1220	13	43	--	--	--
TOTAL	141410	--	73839	82224	--	56025	30963	--	2454

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 1717150
TOTAL LOAD FOR YEAR (TONS) 984694

3-2345. SCIOTO RIVER AT HIGBY, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
DEC 28, 1968	1630	3.0	9750	947	24900	48	52	63	74	88	92	97	100	--	--	--	SBWC
JAN 30, 1969	1700	4.0	2710	834	6100	39	52	67	80	92	94	96	97	100	--	--	SBWC
MAY 21.....	0940	--	1910	264	1360	48	66	75	81	89	97	99	100	--	--	--	SBWC

3-2371. SCIOTO RIVER AT LUCASVILLE, OHIO

LOCATION.--Lat 38°52'32", long 83°00'52", Scioto County, at bridge on State Highway 348 at Lucasville, 0.4 mile downstream from Miller Run, and 4.9 miles upstream from Scioto Brush Creek.
DRAINAGE AREA.--6,178 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1956 to September 1969.
Water temperatures: October 1956 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 874 micromhos Oct. 30; minimum daily, 346 micromhos Jan. 31.
Water temperatures: Maximum, 29°C July 20, 21, Aug. 7; minimum, freezing point Dec. 17, Jan. 5, 12.
EXTREMES, 1956-69.--Specific conductance: Maximum daily, 1,020 micromhos Dec. 22, 1963; minimum daily, 207 micromhos May 8, 1961.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.									
06...	0930	--	--	260	12	111	52	.6	6.6
10...	1600	270	360	--	--	--	--	--	--
15...	0930	--	--	276	0	104	46	.7	4.9
30...	0930	--	--	288	0	125	58	1.0	9.0
NOV.									
04...	0930	--	--	244	0	113	56	.7	10
14...	1100	240	180	--	--	--	--	--	--
16...	0930	--	--	208	0	93	44	.9	12
30...	0930	--	--	198	0	78	28	.5	5.6
DEC.									
01...	0930	--	--	192	0	87	36	.4	--
11...	1615	270	100	--	--	--	--	--	--
20...	0900	--	--	256	0	106	42	.4	14
31...	0900	--	--	144	0	68	18	.1	18
JAN.									
15...	0930	--	--	260	10	97	42	.4	14
22...	1230	590	20	--	--	--	--	--	--
26...	0900	--	--	174	0	70	20	.4	14
31...	0930	--	--	126	0	41	11	.2	15
FEB.									
02...	0900	--	--	118	0	50	13	.2	16
14...	0900	--	--	220	0	60	17	.2	26
25...	--	190	210	--	--	--	--	--	--
28...	0900	--	--	252	0	89	29	.3	14
MAR.									
08...	0900	--	--	248	0	92	31	.4	12
19...	--	220	140	--	--	--	--	--	--
24...	0900	--	--	260	0	103	38	.4	8.3
26...	0900	--	--	156	0	84	24	.4	7.9
APR.									
01...	0930	--	--	204	0	88	29	.3	13
11...	0930	--	--	168	0	75	20	.3	17
19...	0930	--	--	128	0	65	16	.2	7.6
23...	1245	40	20	--	--	--	--	--	--
MAY									
08...	0930	--	--	240	0	94	26	.4	9.2
13...	1515	80	30	--	--	--	--	--	--
23...	0930	--	--	140	0	47	12	.2	19
31...	0930	--	--	208	0	65	20	.3	13
JUNE									
02...	0930	--	--	244	0	74	26	.3	23
14...	0930	--	--	234	0	97	33	.5	26
24...	1015	40	30	--	--	--	--	--	--
27...	0930	--	--	150	0	48	14	.3	16
JULY									
09...	0930	--	--	241	0	80	29	.5	16
11...	0930	--	--	192	0	71	27	.6	17
15...	1430	320	40	--	--	--	--	--	--
23...	0930	--	--	146	0	53	18	.3	10
29...	--	--	--	--	--	--	21	--	--
AUG.									
09...	0930	--	--	268	0	83	34	.4	9.5
11...	0930	--	--	136	0	41	12	.3	8.8
20...	1330	40	100	--	--	--	--	--	--
21...	0745	--	--	--	--	--	26	--	--
SEPT.									
01...	0930	--	--	284	0	98	32	.5	5.2
12...	0930	--	--	230	6	132	48	1.1	13
17...	0930	--	--	256	0	109	37	.6	5.1
24...	1230	70	100	--	--	--	46	--	--

GPO 822-622 - 9

3-2371. SCIOTO RIVER AT LUCASVILLE, OHIO--Continued

EXTREMES, 1956-69--Continued
Water temperatures: Maximum, 29°C July 22, 1957, July 20, 21, Aug. 7, 1969; minimum, freezing point on many days during winter period.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analyses on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water. In July 1969 an additional sample was collected as part of the Federal Water Quality Administration national network. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
06...	3.4	490	325	92	785	8.5	15	--	--
10...	--	--	--	--	--	--	18	6.2	65
15...	2.2	464	320	94	747	8.2	18	--	--
30...	4.8	528	350	114	874	7.0	9	--	--
NOV.									
04...	3.4	510	335	135	829	7.3	12	--	--
14...	--	--	--	--	--	--	7	6.2	51
16...	3.5	406	300	129	693	7.6	8	--	--
30...	1.1	340	245	83	547	7.1	10	--	--
DEC.									
01...	.78	430	260	102	635	7.5	9	--	--
11...	--	--	--	--	--	--	3	11.2	83
20...	.57	490	320	110	738	7.3	4	--	--
31...	.56	308	206	88	452	7.3	4	--	--
JAN.									
15...	.77	454	324	94	745	8.5	2	--	--
22...	--	--	--	--	--	--	5	12.2	95
26...	.76	296	220	78	496	7.4	4	--	--
31...	.39	216	160	57	346	7.6	8	--	--
FEB.									
02...	.40	266	165	68	364	7.2	5	--	--
14...	.28	370	262	82	541	7.7	4	--	--
25...	--	--	--	--	--	--	8	9.2	77
28...	.65	442	306	99	658	7.9	7	--	--
MAR.									
08...	1.2	448	310	108	678	7.2	10	--	--
19...	--	--	--	--	--	--	12	15.2	141
24...	1.9	446	310	96	720	7.9	10	--	--
26...	1.2	310	215	87	438	7.0	8	--	--
APR.									
01...	1.4	400	284	117	622	7.9	8	--	--
11...	.82	336	234	96	518	7.1	12	--	--
19...	.55	280	174	69	399	7.4	16	--	--
23...	--	--	--	--	--	--	11	8.8	79
MAY									
08...	.78	388	275	78	625	7.5	21	--	--
13...	--	--	--	--	--	--	15	7.8	76
23...	.59	250	180	66	384	7.1	19	--	--
31...	.81	340	255	84	525	8.0	24	--	--
JUNE									
02...	.82	376	288	88	607	7.7	25	--	--
14...	1.5	410	298	106	665	7.2	26	--	--
24...	--	--	--	--	--	--	23	9.2	106
27...	.67	250	192	69	405	8.2	25	--	--
JULY									
09...	1.4	406	296	98	635	7.5	27	--	--
11...	1.2	324	252	94	546	7.3	25	--	--
15...	--	--	--	--	--	--	27	5.0	62
23...	1.0	282	179	60	401	8.0	25	--	--
29...	--	--	228	--	511	7.9	24	5.2	61
AUG.									
09...	1.2	438	306	86	692	7.5	26	--	--
11...	1.0	226	157	46	357	7.5	24	--	--
20...	--	--	--	--	--	--	26	6.0	73
21...	--	--	260	--	591	7.2	23	6.0	73
SEPT.									
01...	1.1	450	315	82	712	7.5	26	--	--
12...	4.0	490	320	121	771	8.4	21	--	--
17...	1.4	450	312	102	662	7.4	22	--	--
24...	--	--	294	--	790	7.2	20	6.0	65

3-2371. SCIOTO RIVER AT LUCASVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0930)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	777	813	635	474	409	672	622	535	577	533	546	712
2.....	809	825	552	440	364	668	629	548	607	565	562	726
3.....	780	816	556	440	371	673	601	584	632	575	583	726
4.....	795	829	597	478	393	678	590	592	622	597	555	680
5.....	775	817	608	527	401	663	603	582	624	606	618	703
6.....	785	824	598	541	414	662	593	597	635	613	--	721
7.....	782	820	620	579	454	669	480	610	644	628	647	711
8.....	794	823	643	591	496	678	554	625	632	603	676	708
9.....	777	827	659	--	441	665	518	574	641	635	692	709
10.....	795	820	671	--	420	669	537	479	626	565	566	680
11.....	794	790	680	648	490	690	518	493	644	546	357	717
12.....	804	714	685	690	427	699	517	403	--	539	359	771
13.....	760	767	685	691	505	699	524	467	652	470	426	751
14.....	761	719	696	714	541	703	534	500	665	474	442	730
15.....	747	713	702	745	567	694	550	530	570	441	465	695
16.....	760	693	706	730	567	702	530	552	494	527	490	708
17.....	782	627	712	688	571	694	517	561	513	553	539	662
18.....	794	632	719	726	592	699	518	575	574	569	547	729
19.....	763	664	732	618	605	703	399	564	598	596	582	748
20.....	761	787	738	490	611	710	432	563	--	605	589	743
21.....	775	595	668	440	623	707	434	466	--	634	591	759
22.....	779	604	609	485	639	713	461	412	--	608	638	770
23.....	814	629	--	462	641	716	448	409	--	401	685	727
24.....	806	631	501	440	--	720	447	--	--	492	631	676
25.....	802	632	561	446	649	515	460	424	--	495	627	688
26.....	802	630	545	496	657	438	466	426	442	435	630	678
27.....	813	632	580	497	654	506	481	437	405	469	626	712
28.....	813	646	586	485	658	576	476	446	464	498	649	720
29.....	840	641	481	448	--	583	495	457	524	504	610	691
30.....	874	547	457	352	--	581	520	480	525	528	632	715
31.....	831	--	452	346	--	645	--	525	--	503	662	--
AVERAGE	791	716	621	541	524	657	515	513	--	542	574	715

MAXIMUM VALUE = 874 MINIMUM VALUE = 346

3-2371. SCIOTO RIVER AT LUCASVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0930)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	18	19	20	17	15	15	15	13	14	16	15	16	15	17	18	18	19	20	18	16	17	15	15	13	12	11	10	11	9	9	8	15
NOVEMBER.	10	12	13	12	12	13	13	12	10	8	7	7	6	6	6	8	10	11	10	--	6	7	6	8	8	7	9	10	10	10	--	9
DECEMBER.	9	9	9	8	8	6	5	5	3	3	1	2	5	4	3	1	0	1	1	3	4	3	--	--	2	2	3	5	5	3	4	4
JANUARY..	2	1	2	1	0	2	2	2	--	--	1	0	1	2	2	3	8	10	9	6	6	6	6	7	5	4	4	5	7	10	8	4
FEBRUARY.	8	5	6	4	10	6	6	7	5	5	4	5	5	4	5	4	4	4	7	7	8	7	9	--	9	6	7	7	--	--	--	6
MARCH....	7	6	6	7	10	10	9	10	10	7	6	4	7	9	10	10	10	10	10	11	10	9	10	10	10	8	9	9	10	8	10	9
APRIL....	8	10	10	10	12	11	12	11	12	12	12	12	13	14	15	16	16	17	16	14	12	12	12	11	11	11	13	15	14	14	--	13
MAY.....	13	14	15	17	17	20	20	21	19	17	15	13	13	15	15	18	19	19	20	21	19	19	20	--	20	19	19	20	21	23	24	18
JUNE.....	24	25	22	20	20	22	22	24	24	23	24	--	25	26	25	23	23	22	22	--	--	--	--	--	--	--	25	25	26	26	27	--	--
JULY.....	27	27	26	26	28	28	28	27	27	27	25	25	26	26	25	27	28	28	28	29	29	28	25	26	25	25	27	27	26	25	25	27
AUGUST...	26	27	27	25	27	--	29	28	26	25	24	24	23	24	25	26	26	26	26	26	25	24	24	24	24	25	25	25	25	26	26	25
SEPTEMBER	26	26	24	24	25	25	26	25	24	23	21	21	21	20	21	22	22	21	20	20	20	20	20	21	20	18	18	18	18	18	--	22

MAXIMUM VALUE = 29 MINIMUM VALUE = 0

3-2372.8. UPPER TWIN CREEK AT McGAW, OHIO
(Hydrologic bench-mark, pesticide, and radiochemical station)

LOCATION.--Lat 38°38'14", long 83°13'31", Scioto County, at gaging station at bridge on U.S. Highway 52 at McGaw, 2 miles northeast of Buena Vista, and 2.8 miles upstream from mouth.
DRAINAGE AREA.--12.8 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1963 to May 1967 (periodic); August 1967 to September 1969 (monthly).
Water temperatures: October 1963 to September 1966, October 1967 to September 1969.
Sediment records: October 1963 to September 1969 (partial-record station).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT. 10...	1400	.70	9.5	80	50	7.0	4.8	3.3	2.1	16	0	27
NOV. 14...	1500	2.2	8.8	40	0	5.9	4.6	3.6	2.0	15	0	27
DEC. 11...	1430	1.3	8.7	20	0	5.4	4.6	3.2	1.7	16	0	24
JAN. 22...	0945	13	7.5	120	0	4.4	4.0	2.6	1.7	15	0	20
FE8. 26...	1130	2.4	7.0	60	20	4.4	3.8	2.5	1.4	12	0	22
MAR. 20...	1030	1.1	7.0	10	10	6.5	3.8	2.8	1.6	13	0	24
APR. 24...	1415	13	9.0	40	0	3.2	3.5	2.3	1.6	10	0	20
MAY 14...	1130	10	9.8	80	0	6.2	2.4	2.5	1.9	12	0	20
JUNE 24...	1300	.55	8.8	10	0	6.7	4.4	3.6	2.4	17	0	26
JULY 16...	1100	.27	9.6	10	10	7.1	5.3	4.4	2.8	19	0	30
AUG. 21...	1045	2.9	9.5	20	10	6.0	4.4	3.4	2.4	21	0	20
SEPT. 24...	0900	.05	9.7	--	--	8.2	5.9	4.4	2.6	21	0	34

DATE	COLI-FORM (COL-ONIES PER 100 ML)	BIC-CHEM-ICAL OXYGEN DEMAND (MG/L)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (P8) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT. 10	720	.0	9.4	92	--	--	--	--	--	--	--	--
NOV. 14...	1090	1.5	11.1	96	--	--	--	--	--	--	--	--
DEC. 11...	632	.8	11.9	95	--	--	--	--	--	--	--	--
JAN. 22...	480	1.4	12.4	92	--	--	--	--	--	--	--	--
FE8. 26...	136	.6	13.2	101	--	--	--	--	--	--	--	--
MAR. 20...	--	7.2	12.0	96	0	0	0	0	10	0	0	0
APR. 24...	248	.6	10.8	97	--	--	--	--	--	--	--	--
MAY 14...	740	.6	10.2	98	--	--	--	--	--	--	--	--
JUNE 24...	6900	.4	8.8	104	--	--	--	--	--	--	--	--
JULY 16...	100	4.0	9.2	108	--	--	--	--	--	--	--	--
AUG. 21...	3700	2.0	9.0	98	--	--	--	--	--	--	--	--
SEPT. 24...	220	.4	7.2	76	--	--	--	--	--	--	--	--

3-2372.8. UPPER TWIN CREEK AT McGAW, OHIO--Continued

EXTREMES, 1963-66, 1967-69.--Water temperatures (1963-66, 1967-68): Maximum, 30°C July 27, 1964; minimum, freezing point on many days during January and February 1968.
REMARKS.--No temperature record Nov. 10-14, Dec. 24 to Jan. 21, Mar. 24, May 14 to Sept. 30 due to faulty operation of recorder.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
10...	4.0	.2	1.0	.11	83	67	37	24	106	7.0	15	10
NOV.												
14...	4.0	.0	.7	.00	64	64	34	22	102	7.1	9	5
DEC.												
11...	4.0	.0	1.2	.00	56	61	32	20	95	7.1	6	2
JAN.												
22...	3.0	.0	1.1	.03	60	52	28	16	83	7.1	3	10
FEB.												
26...	3.0	.0	.6	.14	46	51	26	16	80	6.9	4	5
MAR.												
20...	3.0	.1	.3	.00	59	56	32	21	91	7.0	10	5
APR.												
24...	1.5	.0	.4	.00	41	46	22	14	72	6.9	11	5
MAY												
14...	1.0	.1	.1	.00	55	50	26	16	71	7.1	14	4
JUNE												
24...	2.0	.0	.7	.00	60	63	34	20	103	6.9	24	3
JULY												
16...	3.5	.1	1.0	.04	76	73	40	24	120	7.1	24	5
AUG.												
21...	5.0	.1	1.5	.07	58	62	33	16	105	7.2	20	6
SEPT.												
24...	4.0	.2	1.2	.00	78	80	44	27	132	6.8	19	3

3-2372.8. UPPER TWIN CREEK AT McGAW, OHIO--Continued

PESTICIDE ANALYSES, WATER SAMPLES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)	LINDANE (UG/L)	2,4-D (UG/L)	2,4,5-T (UG/L)	SILVEX (UG/L)	ORGANIC CARBON (MG/L)
OCT. 10...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4
APR. 23...	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.0

PESTICIDE ANALYSES, BOTTOM SEDIMENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	ALDRIN (UG/KG)	DDD (UG/KG)	DDE (UG/KG)	DDT (UG/KG)	DI-ELDRIN (UG/KG)	ENDRIN (UG/KG)	HEPTA-CHLOR (UG/KG)	LINDANE (UG/KG)	2,4-D (UG/KG)	2,4,5-T (UG/KG)	SILVEX (UG/KG)	ORGANIC CARBON (MG/L)
OCT. 10...	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--	--

RADIOCHEMICAL ANALYSIS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	DISSOLVED				SUSPENDED	
DATE	URANIUM (UG/L)	RADIUM (PC/L)	GROSS α (UG/U/L)	GROSS β (PC/L)	GROSS α (PC/L)	GROSS (PC/L)
SEPT. 24..	0.01	0.07	< .4	1.2	< .4	< .4

3-2372.8. UPPER TWIN CREEK AT McGAW, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(INDEPENDENTLY OPERATED TEMPERATURE RECORDER)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER																																
MAXIMUM	24	23	21	15	17	12	14	18	18	17	16	19	22	22	22	22	22	22	19	17	17	17	16	14	10	11	12	12	8	8	11	17
MINIMUM	15	17	13	11	9	12	12	12	13	14	13	15	17	17	16	16	18	19	14	10	9	10	9	8	9	8	5	8	7	5	5	12
NOVEMBER																																
MAXIMUM	13	17	14	14	16	15	13	13	11	--	--	--	--	--	6	7	7	7	6	3	3	5	5	6	5	6	6	7	7	6	--	9
MINIMUM	4	9	12	12	11	11	13	11	8	--	--	--	--	--	6	6	7	6	3	3	3	3	3	4	4	3	6	6	6	4	--	7
DECEMBER																																
MAXIMUM	4	--	--	8	5	4	3	3	4	3	3	4	4	4	3	3	3	3	3	3	3	3	3	--	--	--	--	--	--	--	--	--
MINIMUM	4	--	--	5	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	--	--	--	--	--	--	--	--	--
JANUARY																																
MAXIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	3	4	4	4	3	3	4	6	6	--
MINIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	3	3	4	3	3	3	3	4	6	--
FEBRUARY																																
MAXIMUM	6	6	6	6	4	4	4	4	4	4	3	4	3	0	0	0	0	3	4	5	5	6	4	4	4	4	4	4	--	--	--	4
MINIMUM	6	6	6	3	3	4	4	4	4	3	3	3	2	0	0	0	0	0	2	0	0	0	2	4	4	4	4	3	--	--	--	3
MARCH																																
MAXIMUM	3	3	3	3	3	3	3	3	4	4	3	0	0	2	3	3	3	5	5	7	9	9	7	--	6	3	2	2	2	2	1	4
MINIMUM	3	3	3	3	3	3	3	3	3	3	0	0	0	0	0	0	0	2	4	4	6	6	5	--	2	2	1	0	2	1	0	2
APRIL																																
MAXIMUM	1	3	6	6	7	7	7	8	9	9	9	9	8	9	9	9	9	10	10	8	8	7	8	7	9	12	13	15	12	10	--	8
MINIMUM	0	1	3	4	6	7	5	6	8	8	7	7	6	6	8	9	8	9	8	4	4	6	7	7	6	6	7	8	10	8	--	6
MAY																																
MAXIMUM	12	14	16	16	17	17	18	16	14	12	10	10	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	7	8	10	11	12	13	13	14	12	9	9	8	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JUNE																																
MAXIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JULY																																
MAXIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AUGUST																																
MAXIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEPTEMBER																																
MAXIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	DATE	TIME	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)
NOV 14, 1968	1500	2.0	1	.01	APR 23.....	1415	16	0	0
DEC 11.....	1430	1.3	2	.01	JUN 24.....	1530	.49	0	0
APR 18, 1969	1800	142	136	52	SEP 24.....	0930	.05	5	0

3-2386.8. OHIO RIVER AT MELDAHL DAM, NEAR CHILO, OHIO

LOCATION.--Lat 38°47'50", long 84°10'00", Clermont County, about 1,000 ft upstream from Meldahl Dam (mile 436.2) near Chilo, and 1.2 miles upstream from Bear Creek.
DRAINAGE AREA.--70,800 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1969.
Water temperatures: October 1968 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
01...	0730	40	30	--	--	139	54	.6
19...	0900	40	260	--	--	207	78	.6
31...	0930	140	80	44	0	171	86	.6
NOV.								
01...	0830	60	180	--	--	166	80	.6
13...	1000	170	60	52	0	138	60	.6
29...	--	120	420	--	--	116	30	.7
DEC.								
07...	0900	450	520	--	--	100	34	.2
14...	0930	620	330	50	0	73	30	.2
22...	0930	470	260	--	--	74	28	.1
JAN.								
09...	--	560	440	--	--	62	24	.1
20...	1355	350	280	43	0	68	28	.2
24...	0915	460	470	--	--	80	36	.2
FEB.								
12...	1000	420	440	--	--	59	20	.4
19...	1125	170	360	54	0	62	20	.2
28...	1255	290	410	--	--	75	24	.2
MAR.								
01...	1000	400	360	--	--	76	25	.1
11...	0825	310	240	58	0	86	31	.2
27...	0810	250	360	--	--	91	45	.3
APR.								
04...	1020	170	150	--	--	106	31	.4
11...	1810	370	130	46	0	74	20	.2
18...	1010	300	140	--	--	63	20	.4
MAY								
02...	1030	440	180	--	--	67	23	.2
10...	0900	100	200	50	0	70	24	.3
31...	1000	80	70	--	--	87	24	.4
JUNE								
05...	1330	170	50	--	--	79	24	.2
21...	1000	90	20	68	0	82	39	.3
25...	--	90	20	--	--	86	51	.3
JULY								
14...	0900	190	70	--	--	131	54	.5
17...	1000	320	80	54	0	84	26	.3
20...	1000	250	30	--	--	80	20	.3
AUG.								
12...	--	140	80	--	--	101	34	.4
19...	--	140	80	74	0	88	30	.3
29...	--	190	190	--	--	73	24	.2
SEPT.								
06...	1620	10	80	--	--	71	24	.3
09...	2100	30	150	48	0	94	30	.3
26...	--	20	60	--	--	107	42	.2

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01-31	0	10	20	20	30	0	0	0
NOV.								
01-30	0	10	10	0	20	0	0	0
DEC.								
01-31	0	0	20	0	20	0	0	0
JAN.								
01-31	0	0	10	0	10	0	0	0
FEB.								
10-28	0	0	10	0	10	0	0	0
MAR.								
01-31	0	0	0	0	30	0	0	0
APR.								
01-30	0	10	10	10	10	0	0	0
MAY								
01-31	0	10	10	0	20	0	0	0
JUNE								
01-30	0	0	10	10	20	0	0	0
JULY								
01-31	0	10	10	0	20	0	0	0
AUG.								
12-31	0	10	20	0	30	0	0	0
SEPT.								
01-30	0	0	10	0	20	0	10	0

3-2386.8. OHIO RIVER AT MELDAHL DAM, NEAR CHILO, OHIO--Continued

REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese filtered clear when collected. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
01...	8.6	.19	--	180	--	579	7.8
19...	8.3	.12	--	230	--	770	7.8
31...	4.0	.13	442	228	192	719	7.0
NOV.							
01...	9.7	.11	--	208	--	702	7.8
13...	3.6	.19	362	180	138	596	7.8
29...	6.4	.09	--	144	--	433	6.9
DEC.							
07...	3.9	.11	--	142	--	410	7.1
14...	2.6	.02	202	--	85	--	7.5
22...	3.9	.11	--	120	--	337	7.8
JAN.							
09...	6.0	.07	--	90	--	293	7.6
20...	10	.14	198	116	81	336	7.0
24...	7.5	.02	--	116	--	389	7.2
FEB.							
12...	6.2	.03	--	108	--	287	7.8
19...	5.8	.04	192	111	67	297	7.7
28...	5.8	.07	--	126	--	345	7.8
MAR.							
01...	6.2	.00	--	132	--	352	7.4
11...	7.2	.00	202	144	96	399	7.4
27...	8.5	.05	--	152	--	454	7.4
APR.							
04...	8.1	.04	--	134	--	407	7.6
11...	6.1	.03	191	110	72	314	7.6
18...	5.3	.04	--	100	--	289	7.6
MAY							
02...	4.9	.00	--	111	--	304	7.2
10...	4.8	.10	190	122	81	326	7.5
31...	6.5	.05	--	161	--	394	7.8
JUNE							
05...	5.6	.06	--	137	--	380	7.7
21...	7.4	.09	288	146	91	444	7.2
25...	6.7	.06	--	152	--	457	7.2
JULY							
14...	9.2	.00	--	192	--	590	6.7
17...	7.4	.00	248	132	88	380	7.2
20...	6.4	.06	--	119	--	350	7.1
AUG.							
12...	11	.15	--	162	--	461	7.2
19...	12	.15	268	151	90	425	7.8
29...	11	.09	--	112	--	331	7.5
SEPT.							
06...	8.6	.12	--	110	--	329	7.0
09...	6.9	.09	254	133	94	379	7.4
26...	8.6	.23	--	160	--	475	7.6

3-2386.8. OHIO RIVER AT MELDAHL DAM, NEAR CHILO, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 0800 AND 1100)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	579	702	400	--	--	352	382	312	394	--	--	335
2.....	585	--	384	--	--	--	397	304	393	--	--	339
3.....	601	700	393	--	--	364	--	--	390	--	--	352
4.....	636	688	399	--	--	368	407	--	388	--	--	346
5.....	654	670	385	--	--	371	--	--	380	--	--	335
6.....	655	641	385	--	--	372	--	312	383	--	--	329
7.....	659	608	410	--	--	377	--	307	400	--	--	329
8.....	682	614	--	--	--	--	--	320	401	--	--	367
9.....	703	556	--	293	--	--	354	312	--	--	--	379
10.....	717	563	--	--	294	394	361	326	--	--	--	--
11.....	718	601	--	305	294	399	314	--	--	--	--	--
12.....	722	607	--	--	287	404	314	348	--	--	461	--
13.....	729	596	364	--	--	414	325	373	--	--	452	--
14.....	733	597	357	--	292	418	308	358	--	590	452	--
15.....	738	598	347	--	299	--	301	--	410	--	447	--
16.....	744	610	340	--	299	--	301	--	456	382	444	--
17.....	752	613	347	--	290	--	291	--	449	380	444	--
18.....	761	644	343	--	290	--	289	--	448	380	437	--
19.....	770	547	347	--	297	--	293	--	450	364	425	--
20.....	760	544	347	336	302	--	301	--	449	350	425	--
21.....	735	544	334	--	304	411	--	--	444	376	344	--
22.....	717	544	337	367	--	--	--	--	448	--	344	452
23.....	695	530	350	376	--	--	--	--	450	--	341	460
24.....	690	489	360	389	--	403	--	--	449	375	--	471
25.....	717	489	--	378	--	405	--	--	457	387	--	472
26.....	727	490	--	365	--	423	--	--	--	--	--	475
27.....	728	437	--	--	--	454	--	--	--	--	--	452
28.....	726	437	--	324	345	409	--	--	--	--	--	444
29.....	727	433	--	330	--	395	322	389	--	--	331	428
30.....	728	438	--	--	--	396	328	386	--	--	331	430
31.....	719	--	--	--	--	--	--	394	--	--	338	--
AVERAGE	703	570	--	--	--	--	--	--	--	--	--	--

3-2386.8. OHIO RIVER AT MELDAHL DAM, NEAR CHILO, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 0800 AND 1100)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	23	23	23	22	22	21	21	21	21	20	20	20	20	20	20	20	20	20	20	20	20	19	19	19	18	18	18	17	16	16	16	20
NOVEMBER.	16	--	16	18	16	15	15	15	14	13	13	14	14	13	13	12	12	13	11	11	--	10	10	10	--	10	9	9	9	9	--	13
DECEMBER.	9	8	9	8	7	7	7	--	--	--	--	--	6	6	6	4	4	4	4	4	8	8	4	3	--	--	--	--	--	--	--	--
JANUARY..	--	--	--	--	--	--	--	--	0	--	1	--	--	--	--	--	--	--	--	2	--	2	2	4	3	2	--	4	4	--	--	--
FEBRUARY.	--	--	--	--	--	--	--	--	--	4	4	4	--	4	4	3	3	3	3	3	4	--	--	--	--	--	--	4	--	--	--	--
MARCH....	4	--	4	4	5	5	5	--	--	5	--	4	4	5	--	--	--	--	--	--	7	--	--	7	9	8	8	8	8	9	--	--
APRIL....	7	9	--	8	--	--	--	--	11	11	11	12	11	13	13	13	14	14	14	--	--	--	--	--	--	--	--	--	--	9	11	--	--
MAY.....	11	14	--	--	--	17	17	17	17	17	--	17	17	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21	22	--
JUNE.....	22	22	22	21	23	23	23	23	--	--	--	--	--	--	24	24	25	25	25	25	24	25	25	26	26	--	--	--	--	--	--	--
JULY.....	--	--	--	--	--	--	--	--	--	--	--	--	--	28	--	23	23	23	27	27	28	--	--	28	29	--	--	--	--	--	--	--
AUGUST...	--	--	--	--	--	--	--	--	--	--	--	24	26	26	26	26	26	26	25	26	26	26	26	--	--	--	--	--	26	26	27	--
SEPTEMBER	24	26	27	26	26	26	26	27	26	--	--	--	--	--	--	--	--	--	--	--	--	24	22	22	22	22	22	22	22	22	--	--

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO

LOCATION.--Lat 39°35'00", long 84°01'49", Greene County, at gaging station on right bank at downstream side of bridge on New Burlington Road, 0.8 mile west of Roxanna, and 2.2 miles southwest of Spring Valley.
DRAINAGE AREA.--366 sq mi.
PERIOD OF RECORD.--Chemical analyses: September 1968 to September 1969.
Water temperatures: September 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since September 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, SEPTEMBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
10...	1445	111	320	16	58	40	.3	14	490	365	76	770
DEC.												
27...	1135	382	330	0	63	32	.2	21	468	375	104	739
FEB.												
10...	1220	1210	230	0	49	20	.3	19	342	264	75	535
20...	1525	365	346	0	66	32	.4	17	464	370	86	744
APR.												
02...	1345	355	326	0	57	33	.3	16	440	356	88	724
15...	1640	370	308	0	56	34	.2	13	406	340	87	697
JUNE												
02...	1520	385	320	0	58	32	.5	26	412	348	86	697
24...	1730	3400	150	0	26	8.0	.6	28	206	169	46	333
JULY												
28...	0845	--	278	10	53	26	.4	12	380	328	83	644
31...	1355	--	306	20	57	31	.5	14	446	374	89	733
AUG.												
04...	0845	210	344	0	58	36	.3	18	430	366	84	764
11...	1145	1380	153	0	28	10	.4	13	190	164	34	356
SEPT.												
12...	1500	117	354	0	60	45	.4	16	464	371	80	807
27...	0945	119	298	22	61	47	.4	16	448	358	77	748

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), SEPTEMBER 1968

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	520	360
20	---	---	---	---	---	---	---	---	---	---	680	420
21	---	---	---	---	---	---	---	---	---	---	750	560
22	---	---	---	---	---	---	---	---	---	---	770	590
23	---	---	---	---	---	---	---	---	---	---	770	740
24	---	---	---	---	---	---	---	---	---	---	770	730
25	---	---	---	---	---	---	---	---	---	---	780	760
26	---	---	---	---	---	---	---	---	---	---	800	740
27	---	---	---	---	---	---	---	---	---	---	830	740
28	---	---	---	---	---	---	---	---	---	---	830	750
29	---	---	---	---	---	---	---	---	---	---	820	700
30	---	---	---	---	---	---	---	---	---	---	830	690
31	---	---	---	---	---	---	---	---	---	---	---	---

PH (UNITS), SEPTEMBER 1968

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	8.6	7.E
20	---	---	---	---	---	---	---	---	---	---	9.0	8.5
21	---	---	---	---	---	---	---	---	---	---	8.8	8.2
22	---	---	---	---	---	---	---	---	---	---	8.4	8.2
23	---	---	---	---	---	---	---	---	---	---	8.4	E.2
24	---	---	---	---	---	---	---	---	---	---	8.5	8.3
25	---	---	---	---	---	---	---	---	---	---	8.4	8.2
26	---	---	---	---	---	---	---	---	---	---	8.5	8.2
27	---	---	---	---	---	---	---	---	---	---	8.4	8.1
28	---	---	---	---	---	---	---	---	---	---	8.2	8.1
29	---	---	---	---	---	---	---	---	---	---	8.2	8.1
30	---	---	---	---	---	---	---	---	---	---	8.1	8.C
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, SEPTEMBER 1968

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	6.4	4.7
20	---	---	---	---	---	---	---	---	---	---	5.0	3.1
21	---	---	---	---	---	---	---	---	---	---	4.8	3.2
22	---	---	---	---	---	---	---	---	---	---	4.7	3.6
23	---	---	---	---	---	---	---	---	---	---	4.9	3.4
24	---	---	---	---	---	---	---	---	---	---	5.0	3.8
25	---	---	---	---	---	---	---	---	---	---	5.8	4.1
26	---	---	---	---	---	---	---	---	---	---	6.4	5.1
27	---	---	---	---	---	---	---	---	---	---	6.6	4.2
28	---	---	---	---	---	---	---	---	---	---	5.4	3.4
29	---	---	---	---	---	---	---	---	---	---	4.7	2.9
30	---	---	---	---	---	---	---	---	---	---	4.7	2.6
31	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE (°C) OF WATER, SEPTEMBER 1968

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	18.0	16.0
20	---	---	---	---	---	---	---	---	---	---	21.0	16.0
21	---	---	---	---	---	---	---	---	---	---	23.0	17.0
22	---	---	---	---	---	---	---	---	---	---	23.0	19.0
23	---	---	---	---	---	---	---	---	---	---	23.0	20.0
24	---	---	---	---	---	---	---	---	---	---	23.0	20.0
25	---	---	---	---	---	---	---	---	---	---	22.0	20.0
26	---	---	---	---	---	---	---	---	---	---	20.0	15.0
27	---	---	---	---	---	---	---	---	---	---	20.0	15.0
28	---	---	---	---	---	---	---	---	---	---	18.0	15.0
29	---	---	---	---	---	---	---	---	---	---	19.0	15.0
30	---	---	---	---	---	---	---	---	---	---	19.0	14.0
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	820	710	---	---	---	---	710	660	540	400	730	680
2	830	670	---	---	---	---	740	710	580	510	720	680
3	---	---	---	---	---	---	740	700	640	540	710	670
4	---	---	---	---	---	---	770	690	690	600	760	690
5	---	---	---	---	---	---	---	---	650	620	710	690
6	---	---	---	---	---	---	770	730	670	610	720	670
7	---	---	---	---	---	---	790	730	680	620	720	680
8	---	---	---	---	---	---	810	760	670	400	740	660
9	---	---	---	---	---	---	790	730	440	360	730	670
10	780	540	---	---	---	---	980	770	570	410	710	690
11	810	520	---	---	---	---	940	830	620	560	720	690
12	740	540	---	---	---	---	850	790	650	580	740	700
13	770	670	---	---	---	---	830	780	670	620	---	---
14	790	720	---	---	---	---	830	780	680	640	---	---
15	770	710	---	---	---	---	820	770	710	670	---	---
16	780	730	---	---	---	---	800	760	720	650	720	690
17	780	720	---	---	---	---	780	390	710	680	710	660
18	---	---	---	---	---	---	390	280	720	680	710	670
19	---	---	---	---	---	---	490	300	720	670	720	670
20	---	---	---	---	---	---	580	460	740	680	700	670
21	---	---	---	---	---	---	630	560	730	680	710	670
22	---	---	---	---	---	---	---	---	720	670	---	---
23	---	---	---	---	---	---	---	---	710	670	---	---
24	---	---	---	---	---	---	---	---	750	680	---	---
25	---	---	---	---	---	---	---	---	730	690	---	---
26	---	---	---	---	---	---	---	---	720	680	---	---
27	---	---	---	---	750	630	---	---	720	670	---	---
28	---	---	---	---	650	370	680	620	710	680	---	---
29	---	---	---	---	500	380	770	290	---	---	---	---
30	---	---	---	---	620	500	310	250	---	---	---	---
31	---	---	---	---	670	620	400	290	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	710	680	---	---	---	---	---	---	---	---
2	720	700	720	670	---	---	---	---	---	---	---	---
3	740	670	700	660	---	---	---	---	---	---	---	---
4	720	650	700	670	---	---	---	---	---	---	---	---
5	710	500	700	650	---	---	---	---	---	---	---	---
6	630	500	720	670	---	---	---	---	---	---	---	---
7	660	610	700	670	---	---	---	---	---	---	---	---
8	670	650	700	570	---	---	---	---	---	---	---	---
9	680	660	640	520	---	---	---	---	---	---	---	---
10	690	660	610	550	---	---	---	---	---	---	---	---
11	700	670	630	540	---	---	---	---	---	---	---	---
12	700	660	620	590	---	---	---	---	---	---	---	---
13	---	---	680	620	---	---	---	---	---	---	---	---
14	---	---	700	650	---	---	---	---	---	---	---	---
15	---	---	710	530	---	---	---	---	---	---	---	---
16	720	640	670	520	---	---	---	---	---	---	---	---
17	700	650	700	650	---	---	---	---	---	---	---	---
18	680	530	690	500	---	---	---	---	---	---	---	---
19	660	570	580	460	---	---	---	---	---	---	---	---
20	650	620	530	430	---	---	---	---	---	---	---	---
21	690	640	590	530	---	---	---	---	---	---	---	---
22	700	670	630	520	---	---	---	---	---	---	---	---
23	720	690	670	610	---	---	---	---	---	---	---	---
24	720	680	680	630	---	---	---	---	---	---	840	800
25	720	670	700	660	370	330	---	---	---	---	---	---
26	720	670	700	670	---	---	---	---	---	---	---	---
27	720	660	720	690	---	---	---	---	---	---	---	---
28	700	650	---	---	---	---	---	---	---	---	---	---
29	690	590	---	---	---	---	---	---	---	---	---	---
30	710	680	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.1	8.0	---	---	---	---	9.0	8.5	8.5	8.3	8.3	8.2
2	8.0	7.9	---	---	---	---	9.0	8.8	8.5	8.3	8.3	8.2
3	---	---	---	---	---	---	9.0	8.8	8.4	8.2	8.3	8.2
4	---	---	---	---	---	---	9.1	8.8	8.4	8.2	8.3	8.2
5	---	---	---	---	---	---	---	---	8.5	8.2	8.4	8.3
6	---	---	---	---	---	---	9.1	8.8	8.2	8.1	8.3	8.2
7	---	---	---	---	---	---	9.1	8.8	8.1	8.1	8.4	8.2
8	---	---	---	---	---	---	9.1	8.7	8.2	8.1	8.3	8.2
9	---	---	---	---	---	---	8.9	8.8	8.2	8.1	8.4	8.3
10	8.1	8.0	---	---	---	---	8.8	8.7	8.3	8.2	8.5	8.3
11	8.0	8.0	---	---	---	---	9.1	8.8	8.2	8.1	8.5	8.3
12	8.0	8.0	---	---	---	---	8.8	8.4	8.3	8.1	8.4	---
13	8.0	7.9	---	---	---	---	8.5	8.4	8.4	8.2	---	---
14	8.0	7.9	---	---	---	---	8.7	8.5	8.3	8.2	---	---
15	7.9	7.8	---	---	---	---	8.9	8.4	8.2	8.2	---	8.3
16	7.9	7.8	---	---	---	---	8.8	8.2	8.2	8.2	8.4	8.3
17	9.0	7.8	---	---	---	---	8.5	8.2	8.2	8.1	8.4	8.2
18	---	---	---	---	---	---	8.5	8.2	8.2	8.0	8.4	8.1
19	---	---	---	---	---	---	8.4	8.0	8.1	8.0	8.4	8.1
20	---	---	---	---	---	---	8.4	8.1	8.2	8.1	8.3	---
21	---	---	---	---	---	---	8.3	8.1	8.3	8.2	8.2	---
22	---	---	---	---	---	---	---	---	8.2	8.1	---	---
23	---	---	---	---	---	---	---	---	8.2	8.2	---	---
24	---	---	---	---	---	---	---	---	8.2	8.1	---	---
25	---	---	---	---	---	---	---	---	8.3	8.2	---	---
26	---	---	---	---	---	---	---	---	8.4	8.2	---	---
27	---	---	---	---	8.5	8.1	---	---	8.3	8.1	---	---
28	---	---	---	---	8.5	8.2	8.8	8.1	8.4	8.3	---	---
29	---	---	---	---	8.7	8.3	8.8	8.5	---	---	---	---
30	---	---	---	---	8.7	8.3	8.5	8.0	---	---	---	---
31	---	---	---	---	8.5	8.3	8.3	8.1	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	8.0	7.9	---	---	---	---	---	---	---	---
2	8.3	8.2	7.9	7.8	---	---	---	---	---	---	---	---
3	8.4	8.1	7.8	7.7	---	---	---	---	---	---	---	---
4	8.3	8.2	7.8	7.6	---	---	---	---	---	---	---	---
5	8.2	7.9	7.6	7.6	---	---	---	---	---	---	---	---
6	8.2	7.9	7.6	7.5	---	---	---	---	---	---	---	---
7	8.2	8.1	7.6	7.5	---	---	---	---	---	---	---	---
8	8.1	8.0	7.8	7.5	---	---	---	---	---	---	---	---
9	8.1	8.0	7.8	7.6	---	---	---	---	---	---	---	---
10	8.5	8.1	7.9	7.8	---	---	---	---	---	---	---	---
11	8.4	8.1	8.0	7.8	---	---	---	---	---	---	---	---
12	8.2	8.1	8.0	7.8	---	---	---	---	---	---	---	---
13	---	---	7.9	7.8	---	---	---	---	---	---	---	---
14	---	---	7.9	7.8	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	8.2	8.0	---	---	---	---	---	---	---	---	---	---
17	8.1	8.0	---	---	---	---	---	---	---	---	---	---
18	8.2	7.7	---	---	---	---	---	---	---	---	---	---
19	8.1	7.9	---	---	---	---	---	---	---	---	---	---
20	8.2	8.1	---	---	---	---	---	---	---	---	---	---
21	8.2	8.1	---	---	---	---	---	---	---	---	---	---
22	8.2	8.1	---	---	---	---	---	---	---	---	---	---
23	8.2	8.1	---	---	---	---	---	---	---	---	---	---
24	8.2	8.1	---	---	---	---	---	---	---	---	---	---
25	8.2	8.1	---	---	---	---	---	---	---	---	---	---
26	8.1	8.0	---	---	---	---	---	---	---	---	---	---
27	8.0	7.9	7.8	7.7	---	---	---	---	---	---	---	---
28	7.9	7.7	---	---	---	---	---	---	---	---	---	---
29	7.8	7.7	---	---	---	---	---	---	---	---	---	---
30	7.9	7.8	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

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3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.5	2.7	---	---	---	---	---	---	---	---	---	---
2	7.8	2.4	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2420.5. LITTLE MIAMI RIVER NEAR SPRING VALLEY, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	15.0	---	---	---	---	1.0	0.0	8.0	6.0	7.0	5.0
2	20.0	17.0	---	---	---	---	1.0	0.0	7.0	5.0	6.0	5.0
3	---	---	---	---	---	---	1.0	0.0	6.0	4.0	9.0	4.0
4	---	---	---	---	---	---	0.0	0.0	4.0	3.0	8.0	5.0
5	---	---	---	---	---	---	---	---	6.0	4.0	9.0	4.0
6	---	---	---	---	---	---	0.0	0.0	6.0	5.0	8.0	5.0
7	---	---	---	---	---	---	0.0	0.0	7.0	6.0	8.0	6.0
8	---	---	---	---	---	---	1.0	0.0	7.0	5.0	8.0	6.0
9	---	---	---	---	---	---	1.0	0.0	5.0	3.0	7.0	6.0
10	16.0	14.0	---	---	---	---	1.0	0.0	5.0	2.0	6.0	5.0
11	15.0	12.0	---	---	---	---	1.0	0.0	6.0	4.0	5.0	3.0
12	16.0	13.0	---	---	---	---	1.0	0.0	6.0	4.0	---	---
13	18.0	14.0	---	---	---	---	1.0	0.0	4.0	2.0	---	---
14	20.0	15.0	---	---	---	---	1.0	0.0	4.0	2.0	---	---
15	21.0	16.0	---	---	---	---	2.0	0.0	3.0	2.0	---	---
16	21.0	16.0	---	---	---	---	4.0	1.0	4.0	2.0	10.0	4.0
17	20.0	18.0	---	---	---	---	4.0	2.0	6.0	4.0	12.0	6.0
18	---	---	---	---	---	---	3.0	2.0	8.0	5.0	14.0	7.0
19	---	---	---	---	---	---	3.0	3.0	7.0	5.0	16.0	6.0
20	---	---	---	---	---	---	4.0	3.0	7.0	5.0	14.0	11.0
21	---	---	---	---	---	---	5.0	4.0	9.0	5.0	11.0	10.0
22	---	---	---	---	---	---	---	---	9.0	7.0	---	---
23	---	---	---	---	---	---	---	---	9.0	8.0	---	---
24	---	---	---	---	---	---	---	---	8.0	7.0	---	---
25	---	---	---	---	---	---	---	---	7.0	6.0	---	---
26	---	---	---	---	---	---	---	---	7.0	5.0	---	---
27	---	---	---	---	7.0	3.0	---	---	6.0	5.0	---	---
28	---	---	---	---	8.0	4.0	8.0	3.0	7.0	4.0	---	---
29	---	---	---	---	4.0	2.0	9.0	4.0	---	---	---	---
30	---	---	---	---	4.0	2.0	9.0	6.0	---	---	---	---
31	---	---	---	---	4.0	1.0	9.0	7.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	17.0	11.0	---	---	---	---	---	---	---	---
2	9.0	8.0	19.0	12.0	---	---	---	---	---	---	---	---
3	11.0	8.0	21.0	15.0	---	---	---	---	---	---	---	---
4	13.0	8.0	22.0	16.0	---	---	---	---	---	---	---	---
5	13.0	12.0	23.0	17.0	---	---	---	---	---	---	---	---
6	12.0	9.0	23.0	18.0	---	---	---	---	---	---	---	---
7	12.0	7.0	23.0	19.0	---	---	---	---	---	---	---	---
8	15.0	10.0	22.0	19.0	---	---	---	---	---	---	---	---
9	14.0	13.0	19.0	14.0	---	---	---	---	---	---	---	---
10	15.0	12.0	14.0	11.0	---	---	---	---	---	---	---	---
11	14.0	11.0	11.0	9.0	---	---	---	---	---	---	---	---
12	14.0	10.0	13.0	9.0	---	---	---	---	---	---	---	---
13	---	---	14.0	10.0	---	---	---	---	---	---	---	---
14	---	---	16.0	13.0	---	---	---	---	---	---	---	---
15	---	---	19.0	13.0	---	---	---	---	---	---	---	---
16	18.0	15.0	21.0	16.0	---	---	---	---	---	---	---	---
17	20.0	14.0	21.0	19.0	---	---	---	---	---	---	---	---
18	18.0	14.0	20.0	18.0	---	---	---	---	---	---	---	---
19	14.0	10.0	18.0	17.0	---	---	---	---	---	---	---	---
20	12.0	7.0	19.0	16.0	---	---	---	---	---	---	---	---
21	12.0	9.0	19.0	16.0	---	---	---	---	---	---	---	---
22	12.0	9.0	18.0	16.0	---	---	---	---	---	---	---	---
23	10.0	9.0	18.0	15.0	---	---	---	---	---	---	---	---
24	11.0	8.0	18.0	15.0	---	---	---	---	---	---	19.0	17.0
25	15.0	9.0	19.0	15.0	22.0	21.0	---	---	---	---	---	---
26	17.0	11.0	20.0	15.0	---	---	---	---	---	---	---	---
27	19.0	16.0	20.0	15.0	---	---	---	---	---	---	---	---
28	18.0	16.0	---	---	---	---	---	---	---	---	---	---
29	16.0	13.0	---	---	---	---	---	---	---	---	---	---
30	15.0	10.0	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2475. EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO

LOCATION.--Lat 39°08'13", long 84°14'17", Clermont County, at gaging station at highway bridge at Perintown, 5 miles upstream from mouth.
DRAINAGE AREA.--476 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1969.
Water temperatures: October 1965 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 640 micromhos Jan. 17; minimum daily, 199 micromhos Jan. 30.
Water temperatures: Maximum, 29°C June 28, July 17-19; minimum, freezing point on several days during December to February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.										
08...	0800	7.5	--	--	192	0	61	28	.2	2.2
17...	0800	4.2	--	--	268	0	50	22	.2	1.6
21...	1015	5.1	70	1800	--	--	--	--	--	--
31...	0800	4.9	--	--	224	0	59	28	.2	2.8
NOV.										
01...	0800	5.1	--	--	284	0	60	28	.2	3.3
08...	0800	9.9	--	--	236	12	57	26	.2	3.9
13...	1630	7.2	50	50	--	--	--	--	--	--
29...	0800	115	--	--	192	0	47	22	.1	2.4
DEC.										
07...	0800	177	--	--	180	0	56	20	.2	4.5
10...	1315	69	280	80	--	--	--	--	--	--
20...	0800	153	--	--	192	0	63	34	.2	4.5
29...	0800	4040	--	--	80	0	30	10	.2	9.4
JAN.										
07...	0945	98	200	20	--	--	--	--	--	--
17...	0800	52	--	--	244	14	68	28	.1	5.8
25...	0800	1110	--	--	110	0	50	14	.1	4.4
30...	0800	10900	--	--	68	0	27	6.0	.0	5.6
FEB.										
01...	0800	2040	--	--	91	0	30	10	.1	10
05...	1020	420	210	40	--	--	--	--	--	--
06...	0800	302	--	--	182	0	50	16	.2	10
26...	0800	130	--	--	250	0	62	18	.1	6.8
MAR.										
01...	0800	116	--	--	244	0	60	18	.4	6.0
04...	--	117	160	40	--	--	--	--	--	--
18...	0800	77	--	--	216	0	66	22	.3	2.2
27...	0800	1100	--	--	108	0	52	16	.2	9.9
APR.										
10...	0930	--	140	20	--	--	--	--	--	--
11...	0800	238	--	--	170	2	57	17	.3	4.2
20...	0800	2020	--	--	105	0	42	10	.3	4.5
30...	0800	126	--	--	230	0	57	20	.3	2.8
MAY										
05...	1100	--	30	40	--	--	--	--	--	--
07...	0800	72	--	--	236	0	60	18	.2	1.8
20...	0800	1580	--	--	108	0	34	8.0	.2	5.8
26...	0800	96	--	--	190	0	47	16	.2	8.0
JUNE										
02...	0800	55	--	--	212	0	47	16	.2	5.7
03...	0800	66	--	--	228	0	51	18	.3	6.0
10...	1100	52	20	20	--	--	--	--	--	--
27...	0800	98	--	--	196	0	39	14	.2	2.8
JULY										
11...	0800	13	--	--	248	0	45	20	.2	15
14...	1030	87	50	50	--	--	--	--	--	--
19...	0800	11	--	--	218	0	39	18	.2	5.3
23...	0800	425	--	--	126	0	30	13	.2	8.4
AUG.										
11...	0800	96	--	--	152	0	31	14	.2	4.9
11...	1230	86	130	50	--	--	--	--	--	--
13...	0800	130	--	--	192	0	48	23	.2	5.3
20...	0800	739	--	--	102	0	24	9.3	.3	5.3
SEPT.										
08...	0800	101	--	--	172	0	34	18	.2	3.1
15...	1145	6.2	110	70	--	--	--	--	--	--
25...	0800	6.2	--	--	198	2	41	16	.2	2.4
29...	0800	4.6	--	--	220	0	47	21	.2	3.1

3-2475. EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO--Continued

EXTREMES, 1965-69.--Specific conductance: Maximum daily, 641 micromhos Mar. 1, 1967; minimum daily, 172 micromhos Jan. 7, 1966.
Water temperatures: Maximum, 29°C June 28, July 17-19, 1969; minimum, freezing point on many days during winter period in 1966-69.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water. Occasional regulation of flow by Stonelick Lake on Stonelick Creek, 14 miles upstream.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
08...	.55	310	230	72	497	7.4	12	--	--
17...	.07	336	270	50	567	7.8	18	--	--
21...	--	--	--	--	--	--	13	6.0	57
31...	.11	338	245	62	611	8.2	6	--	--
NOV.									
01...	.23	380	295	62	627	7.8	7	--	--
08...	.50	358	270	56	571	8.5	10	--	--
13...	--	--	--	--	--	--	7	14.0	115
29...	.00	264	215	58	501	8.1	8	--	--
DEC.									
07...	.25	268	210	62	453	7.4	2	--	--
10...	--	--	--	--	--	--	1	13.0	92
20...	.38	340	250	92	532	7.8	4	--	--
29...	.22	182	114	48	242	7.0	3	--	--
JAN.									
07...	--	--	--	--	--	--	2	13.4	94
17...	.85	380	310	86	640	8.4	1	--	--
25...	.26	200	165	75	344	7.4	2	--	--
30...	.34	146	90	34	199	7.2	5	--	--
FEB.									
01...	.39	184	112	38	257	7.7	6	--	--
05...	--	--	--	--	--	--	4	12.5	95
06...	.33	252	208	59	442	8.0	4	--	--
26...	.39	324	274	68	553	8.1	3	--	--
MAR.									
01...	.50	356	275	74	553	8.1	4	--	--
04...	--	--	--	--	--	--	6	13.6	109
18...	.37	318	245	68	525	7.6	8	--	--
27...	.49	240	150	62	352	7.7	5	--	--
APR.									
10...	--	--	--	--	--	--	15	8.8	86
11...	.40	256	212	69	434	8.3	12	--	--
20...	.42	184	128	42	283	7.0	12	--	--
30...	.31	320	272	83	515	7.9	15	--	--
MAY									
05...	--	--	--	--	--	--	21	9.2	102
07...	.30	336	250	56	526	7.7	22	--	--
20...	.36	168	118	30	266	7.6	20	--	--
26...	.40	268	210	54	443	7.7	21	--	--
JUNE									
02...	.33	290	234	60	478	7.9	25	--	--
03...	.96	326	240	53	519	7.2	21	--	--
10...	--	--	--	--	--	--	23	8.6	99
27...	.31	262	199	38	431	7.7	28	--	--
JULY									
11...	.31	298	251	48	524	7.5	26	--	--
14...	--	--	--	--	--	--	27	8.0	99
19...	.31	266	220	42	460	8.2	29	--	--
23...	.34	190	136	33	308	7.8	25	--	--
AUG.									
11...	.58	226	159	34	354	7.2	23	--	--
11...	--	--	--	--	--	--	23	8.4	96
13...	.72	310	204	46	468	7.5	24	--	--
20...	.62	164	106	22	239	7.1	23	--	--
SEPT.									
08...	.48	224	192	51	388	8.2	25	--	--
15...	--	--	--	--	--	--	20	8.4	91
25...	.21	254	210	44	427	8.3	19	--	--
29...	.43	286	240	60	499	7.5	16	--	--

3-2475. EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	523	627	513	335	257	553	454	502	507	489	384	406
2.....	536	609	502	382	307	540	464	519	478	492	395	406
3.....	549	618	508	408	348	544	480	518	519	493	402	445
4.....	558	603	450	--	385	544	474	507	496	493	410	446
5.....	509	608	425	--	420	546	--	524	513	494	415	446
6.....	561	597	484	--	442	542	433	519	493	473	415	469
7.....	556	578	453	508	447	538	366	526	466	486	419	461
8.....	497	571	446	--	421	536	367	517	475	507	426	388
9.....	564	586	452	--	299	523	391	390	488	498	292	390
10.....	560	602	--	--	270	524	407	335	502	504	307	393
11.....	570	594	473	--	302	514	434	329	509	524	354	393
12.....	565	576	482	--	338	511	451	323	512	522	296	400
13.....	553	576	484	--	372	517	472	358	491	480	468	394
14.....	563	574	490	--	405	523	484	390	493	428	420	389
15.....	565	578	493	--	437	518	358	408	483	433	315	406
16.....	565	578	--	--	464	520	358	434	501	434	307	--
17.....	567	578	--	640	478	529	--	451	489	450	327	415
18.....	575	547	--	369	487	525	377	459	473	452	347	412
19.....	583	545	526	272	484	533	285	283	455	460	318	433
20.....	591	538	532	259	498	527	283	266	446	463	239	429
21.....	595	544	525	304	501	529	326	312	456	474	241	413
22.....	585	549	508	341	507	533	375	342	473	458	263	435
23.....	593	549	277	366	528	540	408	374	472	308	282	440
24.....	595	555	307	329	543	537	438	401	470	314	310	437
25.....	593	558	320	344	547	403	--	424	448	343	334	427
26.....	576	540	360	378	553	360	460	443	455	332	352	451
27.....	586	564	378	401	550	352	478	457	431	361	377	482
28.....	604	560	269	425	538	368	493	468	441	375	390	494
29.....	598	501	242	243	--	394	498	476	458	372	400	499
30.....	610	515	254	199	--	417	515	489	479	367	408	486
31.....	611	--	297	207	--	430	--	485	--	367	412	--
AVERAGE	569	570	424	--	433	499	419	426	479	440	355	430

MAXIMUM VALUE = 640 MINIMUM VALUE = 199

3-2475. EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	17	17	19	15	13	13	13	12	15	15	14	15	17	17	17	17	18	18	18	15	13	12	12	11	10	9	9	9	8	7	6	14
NOVEMBER.	7	10	12	10	10	11	11	10	8	7	6	5	5	5	8	8	9	10	8	5	5	4	5	7	3	6	8	8	8	7	--	8
DECEMBER.	5	6	6	6	5	3	2	0	0	--	0	1	4	4	1	--	--	--	4	4	4	4	3	0	0	0	1	5	3	2	4	3
JANUARY..	0	0	0	--	--	--	2	--	--	--	--	--	--	--	--	--	1	1	0	0	2	3	4	5	2	0	0	1	1	5	7	--
FEBRUARY.	6	5	5	3	3	4	4	4	3	1	1	2	0	0	0	0	1	2	2	2	2	3	5	5	--	3	4	3	--	--	--	3
MARCH....	4	4	3	5	4	5	5	4	5	4	3	2	2	4	4	5	8	8	9	11	11	5	10	10	9	7	5	6	8	7	7	6
APRIL....	6	8	9	10	--	12	14	12	15	15	12	14	14	16	14	14	--	19	15	12	13	13	13	12	--	14	17	20	12	15	--	13
MAY.....	11	16	18	20	20	21	22	24	20	16	14	13	14	16	17	19	21	22	19	20	20	21	20	20	20	21	21	22	23	24	24	19
JUNE.....	25	25	21	19	21	22	24	24	24	23	24	25	23	25	25	21	21	21	22	23	23	23	23	24	25	26	28	29	28	28	--	24
JULY.....	28	27	27	27	28	28	28	28	26	26	26	26	27	27	27	28	29	29	29	28	26	26	25	26	26	26	27	26	25	24	25	27
AUGUST...	25	25	25	25	25	25	25	25	25	23	23	23	24	24	26	26	26	26	26	23	24	23	22	22	24	24	24	23	24	24	25	24
SEPTEMBER	25	25	25	24	24	24	25	25	23	20	20	20	19	19	20	--	21	19	19	19	19	18	20	20	19	17	19	16	16	15	--	21

- MAXIMUM VALUE = 29 MINIMUM VALUE = 0

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO

LOCATION.--Lat 40°17'14", long 84°08'57", Shelby County, at gaging station at North Street Bridge in Sidney, 100 ft downstream from gage, and 0.5 mile downstream from Tawawa Creek.
DRAINAGE AREA.--541 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1967 to September 1969.
Water temperatures: October 1967 to September 1969.
Sediment records: October 1967 to September 1969.
EXTREMES, 1968-69.--Sediment concentrations: Maximum daily, 849 mg/l Apr. 5; minimum daily, 2 mg/l Nov. 1.
Sediment loads: Maximum daily, 5,190 tons Apr. 5; minimum daily, 0.32 ton Nov. 1.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
01...	1100	56	--	90	60	--	--	--	--	348	8	85
08...	1015	62	--	190	20	--	--	--	--	356	2	82
15...	1400	56	--	120	130	--	--	--	--	352	6	83
22...	1130	56	--	120	40	--	--	--	--	378	0	84
30...	1300	59	--	180	140	--	--	--	--	364	8	83
NOV.												
20...	1200	539	6.0	280	30	78	27	7.2	2.5	238	0	97
DEC.												
17...	1035	160	8.4	110	80	113	33	11	2.0	344	0	118
JAN.												
14...	1230	120	10	160	60	111	38	12	1.8	376	0	110
FEB.												
11...	1145	728	8.5	130	30	69	31	7.5	2.2	247	0	86
MAR.												
11...	1045	179	5.6	500	40	94	34	13	1.8	316	4	98
APR.												
15...	1330	357	6.3	90	60	84	30	7.2	2.0	278	0	94
MAY												
20...	1230	4730	7.2	400	30	44	13	3.4	2.9	136	0	38
JUNE												
17...	1015	270	6.7	80	70	75	27	8.1	2.6	264	0	70
JULY												
08...	0900	--	--	150	40	--	--	--	--	282	0	72
15...	1600	132	--	60	60	--	--	--	--	298	0	82
22...	1015	229	--	80	180	--	--	--	--	310	8	83
28...	1215	191	--	70	20	--	--	--	--	288	6	67
AUG.												
05...	1300	81	--	90	30	--	--	--	--	314	10	77
12...	0915	130	--	100	40	--	--	--	--	308	0	67
19...	1050	78	--	100	50	--	--	--	--	324	8	75
26...	1100	58	--	60	40	--	--	--	--	334	8	78
SEPT.												
02...	1235	49	--	70	80	--	--	--	--	310	0	84
09...	0900	70	--	120	50	--	--	--	--	350	0	73
16...	1030	49	--	380	20	--	--	--	--	286	18	76
23...	1115	61	--	270	10	--	--	--	--	302	0	78
29...	1145	73	--	80	10	--	--	--	--	300	0	78

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO--Continued

EXTREMES, 1967-69.--Water temperatures (1967-68): Maximum, 29°C Aug. 24, 1968; minimum, freezing point on many days during December 1967, January to March 1968.
Sediment concentrations: Maximum daily, 849 mg/l Apr. 5, 1969; minimum daily, 2 mg/l Nov. 1, 1968.
Sediment loads: Maximum daily, 5,300 tons Dec. 22, 1967; minimum daily, 0.32 ton Nov. 1, 1968.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September and monthly November to June. Daily loads were computed by subdivision on Nov. 16, 24, 28, Dec. 4, 27, Jan. 17, 28, 29, Mar. 29, Apr. 5, 18, May 18. Flow affected by ice Dec. 8-20, 24-26, Jan. 1-18.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
01...	18	--	1.0	.46	438	--	390	91	720	8.3	17	--
08...	20	--	3.3	.70	430	--	390	94	718	8.3	11	--
15...	22	--	1.7	.68	454	--	392	93	719	8.3	18	--
22...	20	--	.0	.59	450	--	406	96	734	8.2	13	--
30...	26	--	1.2	.72	466	--	408	96	748	8.3	8	--
NOV.												
20...	14	.4	8.1	.41	372	358	306	111	588	7.7	4	23
DEC.												
17...	18	.6	7.8	.19	504	481	418	136	764	8.1	0	25
JAN.												
14...	18	.6	7.1	.51	494	499	433	125	799	7.9	0	10
FEB.												
11...	14	.3	9.6	.10	374	349	300	97	589	8.0	3	10
MAR.												
11...	20	.5	--	--	454	433	375	109	716	8.3	3	10
APR.												
15...	14	.4	7.9	.06	402	383	333	105	628	8.2	15	10
MAY												
20...	9.0	.9	14	.32	202	201	164	52	332	7.6	17	35
JUNE												
17...	13	.4	9.2	.22	358	342	298	82	562	8.1	18	15
JULY												
08...	14	--	10	.54	388	--	320	88	593	8.0	20	--
15...	18	--	4.6	.47	423	--	350	106	637	8.2	23	--
22...	23	--	3.7	.78	422	--	364	96	682	8.4	25	--
28...	16	--	2.2	.27	380	--	318	72	605	8.3	25	--
AUG.												
05...	21	--	2.6	.32	432	--	368	94	700	8.4	25	--
12...	23	--	7.6	.39	378	--	305	52	643	8.2	21	--
19...	22	--	.6	.26	434	--	362	82	692	8.4	24	--
26...	24	--	2.1	.12	442	--	372	84	723	8.4	23	--
SEPT.												
02...	23	--	.8	.13	398	--	342	88	658	8.2	24	--
09...	20	--	1.9	.48	438	--	358	71	716	8.2	20	--
16...	24	--	1.4	.68	404	--	338	73	674	8.5	20	--
23...	20	--	3.5	.47	400	--	342	94	652	8.1	18	--
29...	20	--	4.3	.42	404	--	344	98	660	8.1	15	--

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.								
01...	.00	.05	9.4	97	12	.05	17	4
08...	.00	.00	9.6	85	1	.04	20	0
15...	.15	.05	10.4	109	0	.03	10	2
22...	.00	.05	10.0	94	1	.03	13	0
30...	.15	.05	12.2	102	1	.02	17	0
NOV.								
20...	.15	.05	11.6	88	0	.04	20	4
DEC.								
17...	.30	.05	13.4	92	0	.04	5.5	4
JAN.								
14...	.37	.05	12.2	84	0	.04	6.0	0
FEB.								
11...	.07	.05	12.6	93	0	.10	40	2
MAR.								
11...	--	--	14.4	107	1	.04	9.0	4
APR.								
15...	.11	.05	9.9	97	0	.04	20	4
MAY								
20...	.49	.05	6.0	62	0	.05	80	4
JUNE								
17...	.10	.10	9.0	95	0	.10	20	4
JULY								
08...	.14	.00	8.6	93	0	.63	85	0
15...	.00	.05	9.8	113	0	.01	100	2
22...	.06	.00	8.8	105	1	.03	16	0
28...	.01	.05	8.0	95	0	.17	71	4
AUG.								
05...	.04	.05	12.8	152	0	.04	11	8
12...	.06	.05	8.2	91	2	.04	35	2
19...	.12	.00	10.0	118	0	.06	35	2
26...	.12	.00	10.6	122	1	.06	70	2
SEPT.								
02...	.02	.02	9.8	115	1	.05	50	4
09...	.04	.02	8.4	91	0	.33	40	2
16...	.10	.05	9.8	106	5	.04	70	2
23...	.04	.00	8.4	88	0	.04	50	4
29...	.01	.00	9.4	92	1	.04	35	0

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01...	--	--	--	--	--	--	--	--
08...	0	10	10	--	0	0	10	0
15...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
NOV.								
20...	--	--	--	--	--	--	--	--
DEC.								
17...	--	--	--	--	--	--	--	--
JAN.								
14...	--	--	--	--	--	--	--	--
FEB.								
11...	--	--	--	--	--	--	--	--
MAR.								
11...	--	--	--	--	--	--	--	--
APR.								
15...	--	--	--	--	--	--	--	--
MAY								
20...	--	--	--	--	--	--	--	--
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
AUG.								
05...	0	10	10	10	10	0	0	40
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--
SEPT.								
02...	--	--	--	--	--	--	--	--
09...	0	0	160	30	100	0	0	0
16...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 1200 AND 1800)

	DAY																													AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	--	--	18	--	--	--	--	--	16	--	--	--	--	--	20	--	--	16	18	--	15	--	12	--	--	10	--	8	--	8	10	--
NOVEMBER.	--	--	--	13	--	11	10	9	8	--	--	6	7	7	--	9	--	8	7	4	5	5	6	--	8	8	6	--	8	8	--	--
DECEM8ER.	--	7	8	5	5	3	--	--	0	0	2	4	5	--	--	1	2	2	2	--	2	--	--	--	--	--	2	5	--	2	--	--
JANUARY..	--	--	0	0	--	--	--	--	--	--	--	--	--	0	1	2	2	2	2	3	3	5	6	--	--	--	6	2	4	7	5	--
FE8RUARY.	4	--	3	2	--	2	3	3	--	3	5	2	1	1	0	--	2	4	4	4	5	5	--	5	5	--	4	--	--	--	--	--
MARCH....	4	--	5	5	5	5	5	--	--	3	--	3	3	3	4	--	7	10	12	12	9	9	--	9	6	--	--	6	6	--	5	--
APRIL....	7	8	10	12	12	--	11	15	13	13	13	13	--	14	15	16	18	14	9	11	12	11	10	11	14	--	18	--	13	13	--	13
MAY.....	15	15	19	21	22	22	22	21	17	14	12	11	13	15	17	20	19	17	16	17	17	15	15	17	18	18	19	19	21	--	--	17
JUNE.....	--	19	16	15	--	16	18	--	18	18	21	21	21	20	15	15	17	16	--	17	17	17	17	17	17	21	23	24	--	--	--	18
JULY.....	--	22	22	--	--	--	24	26	25	--	--	29	--	28	24	--	25	--	24	--	22	22	22	--	23	23	--	21	19	22	21	--
AUGUST...	--	26	--	26	26	28	27	28	24	--	24	25	27	27	28	27	--	27	--	27	26	26	--	--	27	27	26	26	25	27	--	--
SEPTEM8ER	--	--	25	--	25	28	--	24	21	21	20	21	21	--	22	--	19	18	18	17	--	19	20	20	19	--	17	--	--	18	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	LOAD (TONS)
1	57	36	5.5	59	2	.32	791	23	49
2	57	36	5.5	58	4	.63	899	18	44
3	64	42	7.3	62	8	1.3	863	23	54
4	66	43	7.7	64	11	1.9	1630	95	459
5	65	32	5.6	64	7	1.2	1800	106	515
6	62	27	4.5	70	7	1.3	1160	35	110
7	64	25	4.3	84	28	6.4	791	22	47
8	64	22	3.8	130	27	9.5	600	18	29
9	62	22	3.7	134	13	4.7	500	12	16
10	62	27	4.5	104	6	1.7	440	16	19
11	61	27	4.4	89	5	1.2	390	15	16
12	61	23	3.8	84	7	1.6	340	10	9.2
13	64	29	5.0	106	8	2.3	350	11	10
14	59	39	6.2	96	8	2.1	250	13	8.8
15	57	19	2.9	96	9	2.3	200	18	9.7
16	56	20	3.0	366	89	111	170	30	14
17	56	15	2.3	606	115	188	160	136	59
18	58	13	2.0	425	42	48	160	158	68
19	59	37	5.9	507	30	41	160	128	55
20	60	26	4.2	535	13	19	200	140	76
21	57	8	1.2	470	7	8.9	231	183	114
22	57	30	4.6	436	7	8.2	236	185	118
23	56	16	2.4	425	8	9.2	647	221	386
24	56	15	2.3	634	61	115	430	191	222
25	59	12	1.9	796	42	90	240	143	93
26	61	7	1.2	629	17	29	280	123	93
27	64	6	1.0	527	14	20	898	239	792
28	61	6	.99	665	29	65	3570	365	3520
29	58	8	1.3	1280	98	339	3070	200	1660
30	59	5	.80	1010	69	188	2000	98	529
31	59	6	.96	--	--	--	1160	63	197
TOTAL	1861	--	110.75	10611	--	1317.75	24616	--	9391.7

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	460	42	52	3750	91	921	217	18	11
2	380	32	33	2840	68	521	206	8	4.4
3	330	25	22	2330	51	321	191	16	8.3
4	270	20	15	1810	50	244	185	21	10
5	230	17	11	1240	49	164	177	22	11
6	200	14	7.6	1020	42	116	173	20	9.3
7	180	13	6.3	840	30	68	177	22	11
8	160	12	5.2	742	52	104	175	25	12
9	150	11	4.5	998	101	272	187	27	14
10	140	10	3.8	796	24	52	189	30	15
11	140	10	3.8	728	23	45	179	28	14
12	130	10	3.5	683	15	28	158	21	9.0
13	130	8	2.8	567	12	18	165	17	7.6
14	120	7	2.3	503	12	16	158	20	8.5
15	120	9	2.9	460	17	21	150	15	6.1
16	120	52	17	478	20	26	148	10	4.0
17	320	361	655	422	16	18	148	14	5.6
18	3600	457	4440	403	12	13	154	17	7.1
19	3410	178	1640	390	14	15	165	27	12
20	2290	92	569	384	27	28	181	32	16
21	1570	65	276	381	20	21	195	20	11
22	1110	48	144	390	44	46	187	16	8.1
23	1020	45	124	409	34	38	171	23	11
24	1260	43	146	422	15	17	228	25	15
25	1000	30	81	442	15	18	719	38	74
26	647	20	35	337	34	31	858	38	88
27	515	13	18	255	58	40	624	36	61
28	567	25	43	231	47	29	503	17	23
29	2860	273	2350	--	--	--	1160	85	301
30	5130	253	3500	--	--	--	1150	90	279
31	4800	140	1810	--	--	--	647	33	58
TOTAL	33359	--	16023.7	24251	--	3251	9925	--	1125.0

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	478	17	22	317	28	24	236	52	33
2	446	18	22	280	44	33	248	50	33
3	415	19	21	255	42	29	296	62	50
4	369	16	16	250	31	21	255	44	30
5	2020	849	5190	238	22	14	229	37	23
6	3630	425	4170	215	31	18	253	52	36
7	2810	267	2030	200	35	19	231	50	31
8	2160	135	787	243	57	37	208	44	25
9	1630	122	537	594	62	99	241	65	42
10	1180	159	507	827	97	217	208	82	46
11	890	101	243	1080	87	254	169	76	35
12	620	63	105	994	67	180	156	106	45
13	478	37	48	696	32	60	127	82	28
14	409	32	35	523	22	31	156	98	41
15	366	34	34	428	23	27	269	123	89
16	446	42	51	343	28	26	453	108	132
17	436	52	61	301	38	31	270	77	56
18	958	86	302	1970	238	1920	208	98	55
19	3370	291	2650	5050	292	3980	187	107	54
20	2680	132	955	4700	142	1800	173	115	54
21	1890	86	439	3650	86	848	171	114	53
22	1410	67	255	2600	63	442	161	145	63
23	1090	46	135	1910	64	330	587	187	296
24	854	28	65	1340	57	206	724	152	297
25	606	24	39	881	36	86	1590	448	1920
26	481	30	39	611	32	53	962	192	499
27	406	32	35	442	35	42	551	72	107
28	369	47	47	360	44	43	384	73	76
29	419	64	72	317	42	36	323	102	89
30	372	38	38	293	48	38	255	96	66
31	--	--	--	272	52	38	--	--	--
TOTAL	33688	--	18950	32180	--	10982	10281	--	4404

3-2615. GREAT MIAMI RIVER AT SIDNEY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	217	93	54	102	116	32	49	65	8.6
2	202	96	52	95	79	20	49	72	9.5
3	181	77	38	105	69	20	49	83	11
4	187	68	34	93	91	23	52	121	17
5	171	77	36	84	114	26	52	87	12
6	238	78	50	77	86	18	52	55	7.7
7	403	71	77	73	115	23	75	67	14
8	467	117	148	73	99	20	84	102	23
9	375	108	109	102	80	22	70	82	15
10	296	105	84	288	181	141	65	84	15
11	248	108	72	200	125	68	58	77	12
12	210	126	71	127	88	30	52	80	11
13	191	128	66	100	78	21	51	59	8.1
14	165	125	56	86	92	21	49	57	7.5
15	134	105	38	78	91	19	47	89	11
16	117	87	27	87	72	17	46	92	11
17	110	92	27	91	68	17	92	70	17
18	106	92	26	85	80	18	187	50	25
19	104	87	24	78	82	17	130	38	13
20	137	83	31	75	83	17	91	25	6.1
21	229	107	66	77	115	24	76	20	4.1
22	226	78	48	71	113	22	66	29	5.2
23	280	79	60	64	114	20	62	65	11
24	213	69	40	60	120	19	70	72	14
25	161	65	28	57	114	18	125	63	21
26	134	73	26	56	92	14	105	63	18
27	135	76	28	53	110	16	81	65	14
28	187	73	37	51	97	13	75	51	10
29	150	78	32	50	82	11	75	31	6.3
30	127	67	23	49	67	8.9	72	37	7.2
31	114	70	22	51	62	8.5	--	--	--
TOTAL	6215	--	1530	2738	--	764.4	2207	--	365.3

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 191932
TOTAL LOAD FOR YEAR (TONS) 68215.60

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

						PARTICLE SIZE											
						PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED											
DATE	TIME	WATER TEMP-PERA-TURE (C)	DISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	.002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
JAN 29, 1969	0925	3.0	2870	314	2430	44	58	71	84	92	96	100	--	--	--	--	SBWC
APR 19.....	1530	9.0	3520	272	2590	.65	71	83	90	94	97	98	99	100	--	--	SBWC

3-2619.5. LORAMIE CREEK NEAR NEWPORT, OHIO

LOCATION.--Lat 40°18'25", long 84°23'02", in SE1/4 sec.24, T.11 N., R.4 E., Shelby County, at gaging station at bridge on Cardo Roman Road, 1.1 miles northwest of Newport, 3 miles south of Fort Loramie and 3 miles downstream from Mile Creek.
DRAINAGE AREA.--152 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1967 to September 1969.
Sediment records: October 1967 to September 1969.
EXTREMES, 1968-69.--Sediment concentrations: Maximum daily, 715 mg/l Jan. 29; minimum daily, 4 mg/l Jan. 13-16.
Sediment loads: Maximum daily, 2,060 tons Jan. 29; minimum daily, 0.07 ton Sept. 30.
EXTREMES, 1967-69.--Sediment concentrations: Maximum daily, 715 mg/l Jan. 29, 1969; minimum daily, 4 mg/l Mar. 3, 4, 1968, Jan. 13-16, 1969.
Sediment loads: Maximum daily, 2,060 tons Jan. 29, 1969; minimum daily, 0.04 ton Oct. 3, 1967,
REMARKS.--Chemical analyses for this station on page 367. Daily loads were computed by subdivision on Nov. 7, 13-17, 24, 28, Dec. 12, 19, 22, 27, 28, Jan. 17, 28, 29, Feb. 8, 9, 18, Mar. 24, Apr. 5 18, May 17, June 23, July 3, 4, Aug. 9, Sept. 17, 24.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 0700 AND 1200)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVER-AGE
OCTOBER..	--	--	--	--	--	10	--	--	--	--	--	--	15	--	--	--	--	--	--	10	--	--	--	--	--	--	7	--	--	--	--	--
NOVEMBER.	--	--	10	--	--	--	--	--	--	5	--	--	--	--	--	8	8	7	5	3	--	--	--	7	5	6	6	7	7	5	--	--
DECEMBER.	5	--	--	6	3	2	0	--	--	--	--	--	--	6	--	--	--	--	--	--	--	--	--	--	--	--	--	6	0	0	0	--
JANUARY..	--	--	--	--	--	--	0	--	--	--	--	--	--	0	--	--	2	3	1	0	2	--	--	3	0	0	--	--	4	6	3	--
FEBRUARY.	4	2	--	--	--	--	--	--	0	1	3	--	--	--	--	--	--	--	--	--	--	--	--	--	3	--	--	--	--	--	--	--
MARCH....	--	--	--	2	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	6	4	3	5	5	2	2	--
APRIL....	5	--	--	--	14	7	8	8	--	--	--	--	--	--	--	--	--	13	7	9	11	11	--	--	--	--	--	--	--	--	--	--	--
MAY.....	--	--	--	--	--	--	--	--	14	12	9	11	12	14	--	--	--	17	17	16	15	15	--	--	--	--	--	--	--	21	--	--	--
JUNE.....	--	--	--	--	18	--	--	--	--	--	--	27	--	--	--	--	--	--	18	--	18	--	--	19	19	23	28	--	--	--	--	--
JULY.....	--	--	--	24	--	--	--	--	--	--	26	--	--	--	--	--	--	28	--	--	--	--	--	--	26	--	--	--	--	--	--	--
AUGUST...	22	--	--	--	--	--	--	22	--	18	20	19	--	--	--	--	--	--	--	21	--	--	--	--	--	--	19	--	--	--	--	--
SEPTEMBER	--	--	21	--	--	--	--	--	--	18	--	--	--	--	--	--	18	14	15	15	--	--	--	--	--	--	15	--	--	--	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	1.6	53	.23	12	64	2.1	210	64	36
2	1.3	52	.18	8.2	57	1.3	299	86	69
3	1.9	51	.26	8.2	52	1.2	237	53	34
4	2.3	50	.31	7.8	49	1.0	402	108	117
5	2.0	49	.26	7.4	46	.92	388	70	73
6	2.0	48	.26	8.2	43	.95	222	47	28
7	3.9	50	.53	23	76	7.7	138	42	16
8	3.9	52	.55	65	141	25	96	38	9.8
9	2.9	54	.42	63	100	17	74	35	7.0
10	3.1	56	.47	51	72	9.9	24	33	2.1
11	3.5	59	.56	37	53	5.3	19	31	1.6
12	3.1	61	.51	8.0	40	.86	66	55	14
13	3.3	63	.56	20	70	5.2	154	50	21
14	3.1	61	.51	9.3	54	1.5	68	30	5.5
15	2.7	58	.42	15	52	2.7	58	30	4.7
16	2.9	57	.45	431	350	438	62	30	5.0
17	3.3	58	.52	364	111	117	54	30	4.4
18	3.9	58	.61	250	104	70	16	30	1.3
19	5.2	60	.84	214	68	39	34	53	6.1
20	5.4	61	.89	129	39	14	68	59	11
21	5.7	55	.85	98	30	7.9	26	37	2.6
22	6.3	49	.83	90	28	6.8	30	40	3.5
23	6.0	43	.70	82	27	6.0	126	110	37
24	5.7	38	.58	184	134	77	53	54	7.7
25	6.6	32	.57	189	129	66	33	35	3.1
26	8.6	27	.63	120	82	27	25	30	2.0
27	7.8	23	.48	102	81	22	254	169	264
28	7.4	23	.46	228	138	113	1440	286	1030
29	7.0	23	.43	506	189	258	1520	10	41
30	8.5	32	.73	297	92	74	900	5	12
31	14	72	2.7	--	--	--	470	6	7.6
TOTAL	144.9	--	18.30	3627.1	--	1418.33	7566	--	1877.0

3-2619.5. LORAMIE CREEK NEAR NEWPORT, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	207	6	3.4	1350	96	350	26	19	1.3
2	182	6	2.9	742	90	180	23	19	1.2
3	63	6	1.0	540	95	139	21	19	1.1
4	48	7	.91	424	89	102	22	19	1.1
5	40	7	.76	258	78	54	19	20	1.0
6	40	7	.76	228	68	42	21	20	1.1
7	38	8	.82	176	58	28	24	20	1.3
8	31	8	.67	135	77	34	22	20	1.2
9	31	7	.59	308	239	216	29	19	1.5
10	26	6	.42	177	60	29	36	19	1.8
11	20	6	.32	158	47	20	33	19	1.7
12	18	5	.24	148	40	16	26	19	1.3
13	16	4	.17	112	36	11	24	19	1.2
14	16	4	.17	81	31	6.8	23	19	1.2
15	15	4	.16	32	26	2.2	21	19	1.1
16	15	4	.16	32	21	1.8	23	19	1.2
17	245	116	205	27	16	1.2	25	19	1.3
18	1700	268	1230	46	32	7.6	29	45	3.5
19	1520	98	402	163	58	26	40	63	6.8
20	794	100	214	148	27	11	49	58	7.7
21	368	88	87	63	19	3.2	52	48	6.7
22	253	65	44	24	18	1.2	55	39	5.8
23	240	53	34	24	18	1.2	49	29	3.8
24	316	135	115	25	18	1.2	111	80	35
25	183	50	25	28	18	1.4	398	185	199
26	128	44	15	29	18	1.4	384	82	85
27	80	42	9.1	27	18	1.3	263	65	46
28	104	402	257	25	18	1.2	199	49	26
29	1240	715	2060	--	--	--	318	86	74
30	2100	170	964	--	--	--	307	57	47
31	2020	109	594	--	--	--	184	38	19
TOTAL	12097	--	6268.55	5530	--	1289.7	2856	--	586.9

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	131	45	16	34	90	8.3	26	93	6.5
2	119	42	13	28	87	6.6	22	92	5.5
3	100	38	10	26	85	6.0	17	90	4.1
4	83	37	8.3	25	83	5.6	14	89	3.4
5	520	475	959	23	80	5.0	13	88	3.1
6	1160	195	611	20	78	4.2	14	87	3.3
7	757	103	211	17	76	3.5	15	86	3.5
8	346	125	117	18	75	3.6	16	85	3.7
9	199	132	71	102	182	50	15	85	3.4
10	145	117	46	110	128	38	11	84	2.5
11	107	102	29	205	113	63	7.7	83	1.7
12	77	98	20	153	134	55	8.8	81	1.9
13	64	98	17	103	113	31	18	78	3.8
14	56	96	15	77	73	15	16	77	3.3
15	54	95	14	56	50	7.6	30	98	7.9
16	49	94	12	39	43	4.5	44	126	15
17	43	92	11	46	63	8.8	26	117	8.2
18	375	287	358	764	491	1010	19	108	5.5
19	1120	201	608	1940	192	1010	17	102	4.7
20	840	90	204	1800	77	374	17	96	4.4
21	388	95	100	1160	105	329	14	88	3.3
22	237	104	67	471	120	153	11	83	2.5
23	163	103	45	200	116	63	268	511	418
24	110	102	30	102	113	31	256	270	187
25	82	101	22	80	110	24	426	329	378
26	67	100	18	64	107	18	190	195	100
27	53	98	14	46	103	13	90	149	36
28	53	97	14	36	100	9.7	26	103	7.2
29	49	96	13	31	97	8.1	17	67	3.1
30	43	93	11	31	96	8.0	17	55	2.5
31	--	--	--	26	94	6.6	--	--	--
TOTAL	7590.	--	3684.3.	7833.	--	3373.1.	1681.5.	--	1223.0.

3-2619.5. LORAMIE CREEK NEAR NEWPORT, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	12	53	1.7	2.3	89	.55	1.1	80	.24
2	9.7	51	1.3	1.9	84	.43	1.4	78	.29
3	13	60	2.6	1.7	78	.36	1.6	77	.33
4	42	86	11	1.6	72	.31	2.4	78	.51
5	18	54	2.6	1.5	66	.27	2.9	80	.63
6	49	105	14	1.4	60	.23	2.0	81	.44
7	75	166	34	1.1	72	.21	2.9	82	.64
8	57	172	26	1.0	86	.23	3.9	83	.87
9	36	173	17	5.5	90	1.8	3.5	79	.75
10	26	175	12	47	114	14	2.5	46	.31
11	20	173	9.3	20	170	9.2	1.9	44	.23
12	17	163	7.5	6.4	157	2.7	1.7	43	.20
13	15	150	6.1	3.5	112	1.1	1.7	43	.20
14	9.1	138	3.4	2.2	100	.59	1.9	42	.22
15	5.8	126	2.0	1.6	92	.40	1.7	42	.19
16	4.3	113	1.3	2.0	85	.46	1.6	41	.18
17	3.9	101	1.1	2.0	78	.42	29	64	5.9
18	3.5	87	.82	1.7	69	.32	49	76	10
19	3.1	76	.64	1.5	63	.26	17	98	4.5
20	8.4	82	1.9	1.6	57	.25	4.8	93	1.2
21	22	106	6.3	1.5	62	.25	3.9	83	.87
22	9.4	97	2.5	1.3	65	.23	2.5	72	.49
23	6.4	84	1.5	1.0	70	.19	1.9	63	.32
24	5.0	75	1.0	.72	74	.14	8.2	83	1.9
25	4.3	73	.85	.82	78	.17	5.0	71	.96
26	3.5	75	.71	.82	83	.18	3.9	82	.86
27	3.3	78	.69	.92	87	.22	2.2	90	.53
28	4.8	81	1.0	.82	86	.19	3.7	73	.73
29	4.8	84	1.1	1.0	85	.23	1.5	50	.20
30	3.9	86	.91	1.3	83	.29	.59	45	.07
31	2.9	89	.70	1.1	82	.24	--	-	--
TOTAL	498.1	--	173.52	118.80	--	36.42	167.89	--	34.76

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 49710.29
TOTAL LOAD FOR YEAR (TONS) 19593.88

GPO 822-622-11

3-2619.5. LORAMIE CREEK NEAR NEWPORT, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: 8, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JAN 18, 1969	0830	3.0	1680	292	1320	56	74	86	95	97	99	100	--	--	--	--	S8WC
JAN 29.....	0830	4.0	1130	791	2410	53	69	79	88	94	98	99	100	--	--	--	S8WC
APR 5.....	1805	11.0	930	842	2110	53	65	74	84	91	98	98	99	100	--	--	S8WC
APR 19.....	1350	10.0	1180	139	443	69	77	84	89	93	94	97	99	100	--	--	S8WC

3-2631.1. GREAT MIAMI RIVER NEAR TAYLORSVILLE DAM, AT TAYLORSVILLE, OHIO

LOCATION.--Lat 39°51'17", long 84°10'09", Montgomery County, at highway bridge on Little York Road, 0.8 mile downstream from Poplar Creek, 0.8 mile south of Taylorsville, 1.3 miles downstream from gaging station, and 1.5 miles downstream from Taylorsville Dam.
DRAINAGE AREA.--1,149 sq mi (at gaging station).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
01...	1345	135	--	130	80	--	--	--	--	258	39	84
08...	1330	139	--	160	20	--	--	--	--	332	0	84
15...	1615	133	--	70	50	--	--	--	--	314	8	81
22...	1415	124	--	120	30	--	--	--	--	330	0	76
30...	1600	122	--	100	50	--	--	--	--	344	0	84
NOV.												
20...	1515	997	9.0	290	10	82	27	11	3.1	248	0	86
DEC.												
17...	1300	380	7.0	130	50	88	30	15	2.3	300	0	85
JAN.												
14...	1500	310	10	240	40	99	36	19	2.1	354	0	94
FEB.												
11...	1415	1690	6.8	180	0	75	26	8.8	2.1	250	0	69
MAR.												
11...	1330	445	5.5	220	60	88	32	18	2.1	298	6	90
APR.												
15...	1100	799	4.2	50	40	79	30	10	1.9	276	0	82
MAY												
20...	1445	11100	7.8	610	50	47	16	4.4	3.2	144	0	40
JUNE												
17...	1300	940	6.3	130	50	82	32	12	2.2	290	3	69
JULY												
08...	1130	--	--	160	440	--	--	--	--	294	0	72
16...	0950	283	--	100	80	--	--	--	--	307	0	76
22...	1230	820	--	200	100	--	--	--	--	284	0	56
28...	1445	633	--	80	70	--	--	--	--	290	4	59
AUG.												
05...	1500	238	--	240	70	--	--	--	--	286	18	69
12...	1130	1090	--	240	50	--	--	--	--	284	0	56
19...	1245	315	--	50	40	--	--	--	--	312	6	62
26...	1250	199	--	90	80	--	--	--	--	296	18	67
SEPT.												
02...	1435	173	--	90	50	--	--	--	--	314	8	73
09...	1330	181	--	40	20	--	--	--	--	316	0	74
16...	1230	132	--	100	40	--	--	--	--	292	20	74
23...	1315	154	--	80	0	--	--	--	--	316	0	84
29...	1345	161	--	70	10	--	--	--	--	302	0	76

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TUR-BID-ITY (MG/L)	COLOR (THRES-HOLD NUMBER)
OCT.								
01...	.00	.05	15.0	163	20	.07	35	4
08...	.30	.05	11.4	110	1	.10	20	4
15...	.15	.05	13.2	147	0	.06	7.0	2
22...	.22	.10	8.7	84	0	.08	10	2
30...	.52	.10	9.8	84	0	.08	3.0	2
NOV.								
20...	.44	.05	10.8	84	0	.08	25	2
DEC.								
17...	.67	.05	12.6	86	0	.07	8.0	4
JAN.								
14...	.89	.05	11.8	81	0	.07	6.0	0
FEB.								
11...	.22	.05	11.9	91	0	.09	35	2
MAR.								
11...	.27	.05	15.6	119	1	.05	9.0	2
APR.								
15...	.36	.05	9.0	86	2	.07	12	2
MAY								
20...	.41	.20	8.2	86	0	.06	200	4
JUNE								
17...	.00	.30	10.0	109	0	.06	35	2
JULY								
08...	.08	.10	7.8	89	0	.04	64	2
16...	.01	.05	9.4	115	0	.01	40	4
22...	.09	.05	7.8	92	1	.04	45	2
28...	.04	.05	9.0	106	0	.05	35	4
AUG.								
05...	.01	.05	16.0	190	0	.04	29	4
12...	.16	.10	7.2	80	0	.07	45	4
19...	.17	.05	10.6	126	0	.07	35	4
26...	.12	.05	14.0	165	0	.07	20	4
SEPT.								
02...	.06	.05	13.0	155	1	.11	20	4
09...	.06	.10	10.2	116	0	.08	11	4
16...	.06	.05	14.4	156	6	.06	35	2
23...	.09	.00	11.6	126	1	.08	11	2
29...	.05	.20	11.0	110	0	.08	25	2

3-2631.1. GREAT MIAMI RIVER NEAR TAYLORSVILLE DAM, AT TAYLORSVILLE, OHIO--Continued

PERIOD OF RECORD.--Chemical analyses: November 1961 to July 1963, July 1966 to September 1969.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June. Records of discharge are given for 03-2630.00 Great Miami River at Taylorsville, Ohio.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
01...	38	--	3.0	1.5	450	--	358	81	716	8.9	20	--
09...	40	--	7.1	4.2	446	--	360	88	752	8.2	14	--
15...	40	--	7.6	3.4	466	--	370	98	744	8.4	21	--
22...	38	--	6.2	3.8	456	--	356	85	766	9.0	14	--
30...	42	--	7.8	4.6	486	--	372	90	790	8.1	9	--
NOV.												
20...	24	.4	20	1.0	422	386	316	113	626	7.7	5	35
DEC.												
17...	24	.4	11	1.1	430	412	343	97	686	8.1	0	5
JAN.												
14...	32	.4	12	1.8	464	481	395	105	790	8.0	0	7
FEB.												
11...	18	.2	16	.58	374	346	294	89	587	8.0	4	10
MAR.												
11...	28	.4	11	1.1	440	428	351	97	707	8.4	4	10
APR.												
15...	18	.3	12	.29	402	374	321	94	632	8.2	14	8
MAY												
20...	14	.1	21	.37	236	226	183	65	376	7.6	18	40
JUNE												
17...	21	.5	19	.70	428	391	336	94	648	8.3	20	5
JULY												
08...	23	--	13	1.3	409	--	340	98	632	8.0	22	--
16...	26	--	6.0	1.1	417	--	346	94	663	8.2	26	--
22...	19	--	13	.88	366	--	304	71	608	8.1	24	--
28...	23	--	9.9	.90	378	--	322	78	623	8.3	24	--
AUG.												
05...	27	--	6.2	1.2	426	--	352	87	690	8.6	25	--
12...	19	--	10	.80	354	--	308	75	594	9.0	21	--
19...	26	--	5.4	1.3	414	--	338	72	671	8.3	25	--
26...	32	--	7.2	1.3	412	--	350	77	695	8.6	24	--
SEPT.												
02...	34	--	6.6	1.9	436	--	354	83	718	8.3	25	--
09...	32	--	8.2	3.0	412	--	340	81	719	8.2	22	--
16...	38	--	6.8	2.4	460	--	348	75	728	8.6	20	--
23...	38	--	6.3	2.2	454	--	358	99	716	8.2	20	--
29...	39	--	13	2.9	428	--	336	88	716	8.2	16	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CO) (UG/L)
OCT.								
01...	--	--	--	--	--	--	--	--
08...	0	10	10	--	10	0	0	0
15...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
NOV.								
20...	--	--	--	--	--	--	--	--
DEC.								
17...	--	--	--	--	--	--	--	--
JAN.								
14...	--	--	--	--	--	--	--	--
FEB.								
11...	--	--	--	--	--	--	--	--
MAR.								
11...	--	--	--	--	--	--	--	--
APR.								
15...	--	--	--	--	--	--	--	--
MAY								
20...	--	--	--	--	--	--	--	--
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
AUG.								
05...	0	10	20	10	30	0	0	0
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--
SEPT.								
02...	--	--	--	--	--	--	--	--
09...	10	0	10	0	10	0	0	0
16...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--

3-2650. STILLWATER RIVER AT PLEASANT HILL, OHIO

LOCATION.--Lat 40°03'28", long 84°21'22", in SW 1/4 sec.18, T.7 N., R.5 E., Miami County, at gaging station at highway bridge, 0.8 mile northwest of Pleasant Hill, and 2 miles downstream from Painter Creek.
DRAINAGE AREA.--503 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1964 to September 1966.
Sediment records: October 1963 to September 1969.
EXTREMES, 1968-69.--Sediment concentrations: Maximum daily, 762 mg/l June 25; minimum daily, 9 mg/l May 8, 9.
Sediment loads: Maximum daily, 6,910 tons May 19; minimum daily, 2.9 tons Sept. 30.
EXTREMES, 1963-69.--Sediment concentrations: Maximum daily, 1,300 mg/l Apr. 9, 1965; minimum daily, 1 mg/l on several days during January 1966.
Sediment loads: Maximum daily, 21,400 tons Apr. 21, 1964; minimum daily, 0.07 ton Aug. 21, 1965.
REMARKS.--Daily sediment loads were computed by subdivision on Nov. 16, 17, 24, 25, 28, Dec. 4, 23, 24, 27, 29, Jan. 17, 19, 28, 29, Feb. 8, 10, Mar. 29, Apr. 5, 6, 18, May 18, 20, June 15, 23, 24, 26, July 6, 12, 13, 20, Aug. 9. Diurnal fluctuation caused by mills above station. Flow affected by ice Jan. 18.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	52	25	3.5	55	25	3.7	651	63	111
2	50	25	3.4	56	25	3.8	1170	89	281
3	75	25	5.1	60	25	4.0	903	65	158
4	96	25	6.5	64	25	4.3	1430	102	415
5	71	25	4.8	61	25	4.1	1350	85	310
6	64	25	4.3	64	25	4.3	700	37	70
7	68	25	4.6	75	25	5.1	462	32	40
8	68	25	4.6	124	35	12	360	31	30
9	63	25	4.3	211	32	18	284	31	24
10	61	25	4.1	143	25	9.7	250	30	20
11	63	25	4.3	107	25	7.2	225	30	18
12	58	25	3.9	92	25	6.2	222	28	17
13	56	25	3.8	84	25	5.7	222	27	16
14	55	25	3.7	78	25	5.3	215	26	15
15	55	25	3.7	78	25	5.3	184	25	12
16	52	25	3.5	651	134	438	148	25	10
17	54	25	3.6	1410	197	805	173	25	12
18	56	25	3.8	714	80	154	170	25	11
19	60	25	4.0	612	50	83	194	25	13
20	59	25	4.0	410	30	33	296	25	20
21	59	25	4.0	288	25	19	280	25	19
22	61	25	4.1	236	25	16	260	33	23
23	58	25	3.9	208	25	14	861	116	288
24	58	25	3.9	658	139	426	618	76	126
25	60	25	4.0	1130	226	738	340	32	29
26	67	25	4.5	576	86	134	300	25	20
27	63	25	4.3	400	48	52	707	211	723
28	64	25	4.3	540	73	164	4710	479	6090
29	60	25	4.0	2010	305	1660	3920	172	1920
30	55	25	3.7	1020	128	353	1290	65	226
31	55	25	3.7	--	--	--	814	32	70
TOTAL	1896	--	127.9	12215	--	5187.7	23709	--	11147

3-2650. STILLWATER RIVER AT PLEASANT HILL, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	468	25	32	2650	83	594	215	16	9.3
2	451	24	29	1480	54	216	205	15	8.3
3	430	22	26	1170	37	117	196	15	7.9
4	266	20	14	940	32	81	192	15	7.8
5	266	17	12	670	31	56	183	15	7.4
6	275	15	11	562	19	29	183	15	7.4
7	240	15	9.7	512	18	25	192	15	7.8
8	202	15	8.2	787	58	235	189	15	7.7
9	222	15	9.0	2640	314	2240	208	15	8.4
10	175	15	7.1	1380	104	414	236	15	9.6
11	156	15	6.3	996	45	121	232	15	9.4
12	156	15	6.3	842	41	93	202	15	8.2
13	148	15	6.0	610	39	64	196	15	7.9
14	146	15	5.9	468	37	47	183	15	7.4
15	144	15	5.8	385	35	36	172	15	7.0
16	151	15	6.1	355	34	33	166	15	6.7
17	517	33	87	327	34	30	166	15	6.7
18	5900	420	6690	279	33	25	169	15	6.8
19	4430	216	2890	254	32	22	180	15	7.3
20	1250	78	263	236	31	20	196	15	7.9
21	748	36	73	225	30	18	212	15	8.6
22	616	20	33	225	29	18	192	15	7.8
23	748	22	44	236	26	17	178	15	7.2
24	1210	79	258	236	24	15	262	23	16
25	761	65	134	243	22	14	800	63	136
26	375	39	39	243	19	12	677	45	82
27	385	24	25	236	18	11	501	20	27
28	517	38	68	222	17	10	415	15	17
29	4090	409	5200	--	--	--	905	96	273
30	7570	330	6740	--	--	--	961	80	208
31	5710	164	2530	--	--	--	598	25	40
TOTAL	38723	--	25268.4	19409	--	4613	9562	--	979.5

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	479	16	21	229	20	12	192	18	9.3
2	451	15	18	215	17	9.9	192	18	9.3
3	395	15	16	205	15	8.3	180	17	8.3
4	360	15	15	199	13	7.0	166	17	7.6
5	2010	434	4050	189	11	5.6	172	18	8.4
6	3590	523	5590	183	10	4.9	166	18	8.1
7	1380	130	484	178	10	4.8	151	18	7.3
8	884	51	122	180	9	4.4	141	18	6.9
9	658	30	53	215	9	5.2	134	18	6.5
10	550	26	39	283	15	11	128	17	5.9
11	440	25	30	405	30	33	121	17	5.6
12	360	24	23	385	23	24	134	25	9.0
13	322	23	20	287	10	7.7	164	45	20
14	304	22	18	247	10	6.7	178	34	16
15	318	21	18	218	10	5.9	592	98	214
16	327	20	18	199	10	5.4	1010	139	379
17	304	20	16	196	10	5.3	568	67	103
18	1000	95	459	1530	195	1540	370	42	42
19	3920	336	3560	6150	416	6910	295	33	27
20	1780	118	567	4030	138	1590	243	32	21
21	1000	64	173	1560	78	329	199	30	16
22	761	51	105	975	52	137	180	29	14
23	592	46	74	703	39	74	1750	666	3490
24	473	43	55	550	34	50	2130	683	4320
25	400	40	43	451	30	37	2960	762	6090
26	355	35	34	370	28	28	1380	269	1080
27	318	32	27	309	24	20	731	138	272
28	295	28	22	275	21	16	484	97	127
29	275	24	18	247	20	13	354	84	80
30	247	22	15	225	20	12	284	82	63
31	--	--	--	205	19	11	--	--	--
TOTAL	24548	--	15703	21593	--	10928.1	15749	--	16466.2

3-2650. STILLWATER RIVER AT PLEASANT HILL, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	239	78	50	151	49	20	82	20	4.4
2	206	72	40	134	48	17	84	20	4.5
3	218	64	38	118	47	15	88	20	4.8
4	259	54	38	108	46	13	86	20	4.6
5	233	48	30	101	45	12	82	20	4.4
6	392	101	115	94	44	11	80	20	4.3
7	542	200	293	89	43	10	79	20	4.3
8	426	118	136	84	41	9.3	83	20	4.5
9	311	104	87	1050	249	2140	79	20	4.3
10	251	99	67	4960	424	5680	74	20	4.0
11	208	88	49	3190	126	1090	72	20	3.9
12	395	200	269	1030	81	225	70	20	3.8
13	401	247	395	581	70	110	67	20	3.6
14	235	209	133	389	53	56	66	20	3.6
15	172	128	59	288	30	23	65	20	3.5
16	143	88	34	267	25	18	64	19	3.3
17	129	69	24	307	25	21	115	19	5.9
18	117	59	19	234	25	16	263	19	13
19	109	56	16	200	25	14	209	18	10
20	576	119	257	184	25	12	135	17	6.2
21	1380	321	1200	165	25	11	106	16	4.6
22	790	154	328	146	25	9.9	94	15	3.8
23	455	113	139	131	25	8.8	88	15	3.6
24	315	83	71	120	25	8.1	89	15	3.6
25	246	67	45	112	25	7.6	91	15	3.7
26	200	62	33	106	25	7.2	89	15	3.6
27	217	57	33	102	25	6.9	86	15	3.5
28	230	54	34	95	25	6.4	82	15	3.3
29	196	51	27	90	25	6.1	76	15	3.1
30	178	50	24	86	25	5.8	72	15	2.9
31	201	49	27	83	23	5.2	--	--	--
TOTAL	9959	--	4111	14795	--	9595.3	2816	--	136.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 194574
TOTAL LOAD FOR YEAR (TONS) 104263.7

3-2650. STILLWATER RIVER AT PLEASANT HILL, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JAN 29, 1969	1550	2.0	5200	556	7810	58	70	81	90	95	97	98	100	--	--	--	SBWC
FEB 9.....	0930	1.0	2970	327	2620	68	79	90	95	97	98	100	--	--	--	--	SBWC
APR 5.....	1710	11.0	3710	944	9460	55	66	76	87	94	97	98	99	100	--	--	SBWC
APR 19.....	1745	--	3740	247	2490	70	77	88	94	99	100	--	--	--	--	--	SBWC

3-2660. STILLWATER RIVER AT ENGLEWOOD, OHIO

LOCATION.--Lat 39°52'10", long 84°16'57", in NW 1/4 sec.23, T.5 N., R.5 E., Montgomery County, at bridge on Interstate Highway 70, about 0.8 mile downstream from gaging station, about 1 mile downstream from Englewood Dam, and 1.8 miles southeast of Englewood.
DRAINAGE AREA.--650 sq mi.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
01...	1300	64	--	10	90	--	--	--	--	256	26	72
08...	1245	84	--	440	40	--	--	--	--	342	0	74
15...	1515	68	--	100	190	--	--	--	--	236	32	66
22...	1330	66	--	70	30	--	--	--	--	300	12	74
30...	1515	72	--	110	140	--	--	--	--	354	0	77
NOV.												
20...	1430	536	8.3	250	10	86	26	7.5	2.8	260	0	78
DEC.												
17...	1215	225	9.4	60	30	103	34	11	1.7	360	0	82
JAN.												
14...	1415	200	9.3	160	40	103	42	13	1.7	382	0	87
FEB.												
11...	1330	1520	6.5	290	20	65	27	6.0	1.8	234	0	56
MAR.												
11...	1245	318	2.6	120	40	81	34	12	1.5	282	12	75
APR.												
15...	1145	480	4.3	80	50	82	34	9.2	1.6	296	6	73
MAY												
20...	1400	5400	9.0	550	30	50	16	4.4	3.3	144	0	40
JUNE												
17...	1200	996	7.9	80	50	75	29	7.0	2.4	246	0	53
JULY												
08...	1045	1100	--	660	170	--	--	--	--	254	0	50
16...	0900	236	--	130	50	--	--	--	--	266	0	54
22...	1145	1680	--	400	80	--	--	--	--	214	0	37
28...	1345	424	--	120	20	--	--	--	--	328	0	60
AUG.												
05...	1535	168	--	110	50	--	--	--	--	314	8	60
12...	1045	3580	--	400	40	--	--	--	--	192	0	37
19...	1215	304	--	100	110	--	--	--	--	326	0	60
26...	1215	168	--	60	30	--	--	--	--	322	14	63
SEPT.												
02...	1355	120	--	90	50	--	--	--	--	312	0	64
09...	1245	110	--	60	30	--	--	--	--	312	10	64
16...	1145	95	--	80	20	--	--	--	--	318	12	66
23...	1230	124	--	190	0	--	--	--	--	288	0	67
29...	1300	106	--	100	10	--	--	--	--	334	0	69

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TUR-BID-ITY (MG/L)	ODOR (THRES-HOLD NUMBER)
OCT.								
01...	.00	.05	15.6	166	0	.04	50	2
08...	.15	.05	9.8	94	0	.05	35	4
15...	.07	.05	18.0	195	0	.06	35	0
22...	.00	.05	12.4	117	0	.05	30	2
30...	.30	.05	10.4	87	1	.03	17	2
NOV.								
20...	.30	.05	11.4	89	1	.06	45	2
DEC.								
17...	.30	.05	13.6	93	8	.05	2.0	2
JAN.								
14...	.30	.05	14.2	97	0	.05	5.5	2
FEB.								
11...	.15	.05	12.5	95	0	.08	85	2
MAR.								
11...	.01	.05	15.6	116	0	.14	6.0	2
APR.								
15...	.15	.05	9.6	92	2	.09	10	0
MAY								
20...	.58	.20	8.8	91	0	.07	180	4
JUNE								
17...	.14	.20	9.2	97	0	.10	70	2
JULY								
08...	.04	.05	8.6	96	0	.05	220	0
16...	.00	.05	6.6	78	0	.01	65	0
22...	.09	.05	8.0	94	1	.04	280	2
28...	.12	.05	7.0	82	0	.13	60	2
AUG.								
05...	.06	.05	10.2	120	0	.04	11	0
12...	.13	.05	7.8	85	3	.05	45	0
19...	.25	.00	7.4	88	0	.02	70	0
26...	.12	.05	9.4	110	0	.05	35	2
SEPT.								
02...	.08	.05	9.4	112	0	.06	25	0
09...	.11	.05	9.6	109	0	.04	35	0
16...	.06	.05	10.8	117	8	.06	30	0
23...	.29	.00	8.0	85	0	.11	40	2
29...	.12	.05	9.6	96	2	.05	25	2

3-2660. STILLWATER RIVER AT ENGLEWOOD, OHIO--Continued

PERIOD OF RECORD.--Chemical analyses: November 1961 to July 1963, July 1966 to September 1969.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
01...	28	--	.0	.74	374	--	330	76	623	8.8	19	--
08...	26	--	4.8	1.6	410	--	370	90	704	8.2	14	--
15...	28	--	1.7	1.2	398	--	318	70	606	8.9	18	--
22...	30	--	.2	1.4	404	--	350	84	684	8.5	13	--
30...	28	--	4.0	2.2	448	--	374	84	736	8.2	8	--
NOV.												
20...	22	.3	24	.60	408	384	322	109	629	7.8	5	40
DEC.												
17...	22	.3	15	.78	460	456	397	102	747	8.2	0	8
JAN.												
14...	24	.3	16	.92	480	486	430	117	796	8.1	0	5
FEB.												
11...	16	.2	23	.25	360	317	273	81	547	8.1	4	10
MAR.												
11...	22	.3	10	.50	406	390	342	91	651	8.5	3	7
APR.												
15...	20	.3	14	.15	410	391	345	92	655	8.3	14	5
MAY												
20...	14	.2	34	.60	260	244	191	73	398	7.7	17	35
JUNE												
17...	18	.3	46	.40	410	360	306	105	593	8.1	18	5
JULY												
08...	16	--	21	.70	334	--	286	76	539	8.1	21	--
16...	20	--	15	.67	361	--	306	88	565	7.9	25	--
22...	12	--	16	.12	266	--	232	56	453	8.0	24	--
28...	17	--	9.7	.58	408	--	346	76	649	8.2	24	--
AUG.												
05...	19	--	8.9	.76	402	--	350	78	669	8.3	25	--
12...	9.0	--	9.7	.65	256	--	208	50	399	7.9	20	--
19...	20	--	8.6	.71	426	--	344	76	650	8.2	25	--
26...	18	--	8.3	.52	414	--	360	72	684	8.5	24	--
SEPT.												
02...	21	--	4.8	.43	372	--	334	78	639	8.2	25	--
09...	23	--	3.4	.82	388	--	342	70	670	8.4	22	--
16...	26	--	5.8	1.3	426	--	350	69	686	8.4	20	--
23...	24	--	2.8	1.3	386	--	314	78	627	8.0	19	--
29...	25	--	4.8	1.5	424	--	360	86	704	8.2	16	--

3-2678. MAD RIVER AT EAGLE CITY, OHIO

LOCATION.--Lat 39°58'36", long 83°49'21", in center sec.2, R.10, T.4, Clark County, at gaging station at bridge on Eagle City Road, 0.2 mile downstream from Moore Run, 0.7 mile east of Eagle City, and 2.4 miles south of Tremont City.
DRAINAGE AREA.--307 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1965 to September 1969 (discontinued).
Sediment records: October 1965 to September 1969 (discontinued).
EXTREMES, 1968-69.--Sediment concentrations: Maximum daily, 1,930 mg/l May 18; minimum daily, 4 mg/l Oct. 13.
Sediment loads: Maximum daily, 10,300 tons May 18; minimum daily, 1.4 tons Oct. 13.
EXTREMES, 1965-69.--Water temperatures (1965-68): Maximum, 21°C July 2, 3, 1966, July 25, Aug. 7, 20, 23, 1968; minimum, freezing point Jan. 24, 31, 1966, Feb. 25, 26, 1967, Jan. 5, 8, 1968.
Sediment concentrations: Maximum daily, 1,930 mg/l May 18, 1969; minimum daily, 3 mg/l Dec. 29, 1965.
Sediment loads: Maximum daily, 10,400 tons May 27, 1968; minimum daily, 0.31 ton Dec. 29, 1965.
REMARKS.--Chemical analyses for this station on page 368. Daily loads computed by subdivision on Nov. 28, Dec. 4, 22, 27-29, Jan. 17-19, 29, 30, Feb. 8, 9, Apr. 5, 6, 18, May 18, June 14-16, 23-25, July 20, 27, Aug. 9, 10.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 0700 AND 1200)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	14	15	16	10	11	12	11	10	11	11	10	11	12	13	14	15	16	16	16	15	10	10	9	9	9	9	9	8	7	6	6	11
NOVEMBER.	10	10	10	10	10	11	12	9	7	7	7	7	6	7	10	--	9	7	5	4	4	6	8	10	7	7	10	10	8	8	--	8
DECEMBER.	8	8	9	7	5	2	--	--	2	2	2	5	8	3	2	1	1	4	6	6	--	--	--	1	0	--	6	5	--	3	5	--
JANUARY..	--	1	4	--	--	3	1	2	2	2	--	4	4	4	5	5	6	3	--	3	5	6	8	7	--	--	2	4	4	6	5	--
FEBRUARY.	--	--	5	3	4	5	5	--	--	2	4	4	2	3	--	--	--	4	4	5	5	--	--	6	5	5	4	4	--	--	--	--
MARCH....	--	--	4	4	--	5	6	--	--	4	2	2	3	4	--	--	--	--	--	10	8	--	--	--	--	--	3	6	--	5	4	--
APRIL....	6	10	8	--	--	--	6	10	12	12	8	14	--	12	12	12	14	15	--	--	10	9	8	8	10	--	--	14	10	9	--	--
MAY.....	10	11	--	14	--	--	--	--	--	--	--	--	10	--	--	--	--	16	16	15	14	13	12	--	--	12	12	15	16	--	17	--
JUNE.....	--	--	12	12	14	15	--	--	14	14	16	18	17	--	--	12	13	15	15	16	--	--	17	17	17	19	25	--	--	--	--	--
JULY.....	--	17	16	18	--	--	18	17	17	18	19	19	--	18	18	19	20	20	--	--	--	19	20	19	--	--	--	--	18	--	--	--
AUGUST...	17	--	--	16	17	17	17	19	--	--	16	16	16	17	18	--	--	19	--	--	--	--	--	--	--	17	15	16	17	--	--	--
SEPTEMBER	--	17	17	17	18	--	--	16	15	12	13	--	--	14	--	16	--	13	14	--	--	14	15	16	14	13	--	--	--	13	--	--

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	145	14	5.5	136	17	6.2	244	44	29
2	142	14	5.4	133	18	6.5	296	30	24
3	151	21	8.6	130	17	6.0	276	21	16
4	139	18	6.8	130	13	4.6	638	151	273
5	136	9	3.3	139	11	4.1	450	45	55
6	136	8	2.9	145	16	6.3	318	31	27
7	139	8	3.0	160	9	3.9	272	37	27
8	142	10	3.8	154	6	2.5	244	29	19
9	139	9	3.4	151	10	4.1	226	13	7.9
10	142	5	1.9	148	14	5.6	216	13	7.6
11	139	8	3.0	145	14	5.5	212	10	5.7
12	133	5	1.8	145	8	3.1	212	14	8.0
13	130	4	1.4	145	9	3.5	223	18	11
14	130	9	3.2	145	7	2.7	223	12	7.2
15	130	13	4.6	151	16	6.5	209	14	7.9
16	136	13	4.8	334	56	51	202	9	4.9
17	139	14	5.3	276	29	22	206	5	2.8
18	139	15	5.6	258	26	18	209	5	2.8
19	133	15	5.4	237	21	13	251	12	8.1
20	130	15	5.3	212	13	7.4	272	24	18
21	133	15	5.4	195	10	5.3	230	15	9.3
22	139	15	5.6	184	14	7.0	293	32	32
23	139	15	5.6	178	17	8.2	442	102	122
24	139	14	5.3	220	20	12	282	54	41
25	139	13	4.9	234	20	13	251	16	11
26	136	14	5.1	206	19	11	240	5	3.2
27	130	14	4.9	192	16	8.3	606	319	877
28	130	14	4.9	304	73	79	1640	855	4000
29	133	15	5.4	386	134	140	686	146	292
30	133	16	5.7	262	64	45	466	53	67
31	136	16	5.9	---	--	--	386	62	65
TOTAL	4237.	--	143.7.	5835	--	511.3.	10921.	--	6081.4.

3-2678. MAD RIVER AT EAGLE CITY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	300	49	40	940	38	96	260	13	9.1
2	290	43	34	706	19	36	250	13	8.8
3	276	26	19	665	16	29	250	12	8.1
4	244	15	9.9	555	17	25	240	14	9.1
5	234	15	9.5	510	15	21	240	14	9.1
6	234	18	11	465	17	21	240	14	9.1
7	223	15	9.0	435	8	9.4	240	14	9.1
8	220	17	10	560	52	132	240	14	9.1
9	220	30	18	760	68	168	240	14	9.1
10	202	22	12	510	12	17	230	15	9.3
11	195	16	8.4	475	12	15	230	15	9.3
12	192	17	8.8	430	10	12	220	15	8.9
13	188	16	8.1	377	11	11	220	15	8.9
14	192	11	5.7	346	16	15	210	15	8.5
15	184	10	5.0	326	16	14	210	15	8.5
16	174	10	4.7	318	14	12	210	15	8.5
17	797	338	2770	326	16	14	210	15	8.5
18	2530	621	7180	320	23	20	210	15	8.5
19	714	46	98	310	17	14	220	15	8.9
20	486	14	18	300	18	15	210	15	8.5
21	418	13	15	300	14	11	210	15	8.5
22	382	12	12	290	11	8.6	210	15	8.5
23	418	14	16	290	10	7.8	200	15	8.1
24	502	14	19	280	15	11	270	30	22
25	398	12	13	280	17	13	430	54	63
26	346	11	10	280	14	11	400	52	56
27	324	13	11	270	9	6.6	350	38	36
28	370	30	30	260	12	8.4	326	23	20
29	2130	526	3500	--	--	--	750	408	826
30	2940	154	1300	--	--	--	515	166	231
31	1450	80	313	--	--	--	377	75	76
TOTAL	17773.	--	15518.1	11884	--	773.8.	8618.	--	1532.0.

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	346	23	21	290	20	16	283	34	26
2	342	16	15	280	26	20	307	33	27
3	330	17	15	270	34	25	300	32	26
4	307	15	12	270	38	28	280	28	21
5	921	471	2170	270	37	27	297	25	20
6	892	172	482	260	29	20	287	24	19
7	535	58	84	260	29	20	273	22	16
8	415	39	44	290	35	27	260	18	13
9	359	24	23	310	37	31	249	20	13
10	346	23	21	330	37	33	246	19	13
11	311	24	20	370	33	33	243	12	7.9
12	300	23	19	320	25	22	253	10	6.8
13	307	22	18	300	18	15	263	10	7.1
14	304	20	16	290	14	11	301	210	222
15	307	19	16	280	15	11	448	258	362
16	346	19	18	270	18	13	485	81	115
17	322	20	17	270	22	16	330	60	53
18	788	227	583	1240	1930	10300	294	55	44
19	1050	144	408	2280	412	2540	283	37	28
20	590	48	76	1100	70	208	263	38	27
21	465	24	30	706	26	50	249	38	26
22	430	25	29	560	30	45	249	39	26
23	386	25	26	490	30	40	1060	1040	4120
24	360	25	24	440	27	32	764	285	825
25	340	24	22	400	20	22	850	285	702
26	330	23	20	380	19	19	505	127	173
27	320	22	19	350	21	20	386	81	84
28	310	21	18	338	24	22	334	56	51
29	300	20	16	326	29	26	314	41	35
30	300	19	15	307	33	27	297	34	27
31	--	--	--	290	35	27	--	--	--
TOTAL	12959.	--	4297.	14137.	--	13746.	10953.	--	7135.8.

3-2678. MAD RIVER AT EAGLE CITY, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	287	30	23	240	30	19	159	29	12
2	273	25	18	230	15	9.3	179	37	18
3	277	22	16	220	28	17	167	37	17
4	270	21	15	220	41	24	162	31	14
5	263	20	14	217	23	13	159	27	12
6	280	22	17	217	28	16	153	21	8.7
7	334	38	34	211	26	15	162	18	7.9
8	287	31	24	208	25	14	164	17	7.5
9	263	25	18	1550	616	9580	156	16	6.7
10	249	25	17	965	172	568	164	15	6.6
11	249	24	16	415	67	75	167	18	8.1
12	263	24	17	307	24	20	167	22	9.9
13	227	27	17	266	15	11	162	14	6.1
14	220	30	18	246	15	10	156	14	5.9
15	217	29	17	236	18	11	156	12	5.1
16	220	27	16	224	22	13	153	16	6.6
17	227	25	15	233	25	16	167	24	11
18	220	25	15	224	26	16	178	40	19
19	220	25	15	214	21	12	162	27	12
20	583	268	611	208	13	7.3	156	16	6.7
21	366	107	106	199	9	4.8	151	14	5.7
22	294	65	52	193	8	4.2	153	25	10
23	480	171	222	184	7	3.5	151	17	6.9
24	318	60	52	178	7	3.4	159	15	6.4
25	307	25	21	178	9	4.3	159	15	6.4
26	253	17	12	178	14	6.7	156	16	6.7
27	308	27	25	176	15	7.1	153	23	9.5
28	326	20	18	173	14	6.5	151	19	7.7
29	273	18	13	170	15	6.9	151	11	4.5
30	266	22	16	164	22	9.7	151	12	4.9
31	249	21	14	162	32	14	--	--	--
TOTAL	8869.	--	1504.	8806.	--	10537.7.	4784.	--	269.5.

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 119776.
TOTAL LOAD FOR YEAR (TONS) 62050.3.

3-2678. MAD RIVER AT EAGLE CITY, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
JAN 29, 1969	0755	4.0	1890	1350	6890	33	43	54	67	82	89	94	99	100	--	--	SBWC
APR 5.....	1735	12.0	1840	1370	6810	31	44	57	73	87	94	97	99	100	--	--	SBWC
APR 18.....	1715	14.0	1150	356	1110	45	52	62	74	89	94	97	98	100	--	--	SBWC
JUN 23.....	0715	17.0	1440	2130	8280	50	66	82	92	96	97	98	99	100	--	--	SBWC

3-2700. MAD RIVER NEAR DAYTON, OHIO

LOCATION.--Lat 39°47'48", long 84°05'32", in SW 1/4 sec. 7, R.8, T.2, Greene County, at gaging station on left bank, about 600 ft downstream from Huffman Dam, 2.5 miles downstream from Mud Run, and 6 miles northeast of Dayton.
DRAINAGE AREA.--635 sq mi.
PERIOD OF RECORD.--Chemical analyses: November 1961 to July 1963, July 1966 to September 1969.
Water temperatures: June 1968 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
01...	1430	278	--	100	130	--	--	--	--	340	2	89
08...	1415	292	--	90	20	--	--	--	--	338	0	84
15...	1700	264	--	80	60	--	--	--	--	322	12	87
22...	1530	264	--	90	50	--	--	--	--	348	0	87
30...	1700	257	--	80	20	--	--	--	--	340	4	88
NOV.												
20...	1600	528	10	160	30	98	36	14	2.8	338	0	92
DEC.												
17...	1415	412	9.8	80	50	102	37	16	2.4	362	0	93
JAN.												
14...	1545	416	9.3	190	70	100	37	17	2.2	356	0	92
FEB.												
11...	1500	1080	10	130	40	90	34	12	2.6	324	0	84
MAR.												
11...	1445	436	5.1	180	80	94	34	15	2.2	322	8	86
APR.												
15...	0940	636	5.3	360	90	86	37	12	2.1	328	0	94
MAY												
20...	1545	2140	9.2	80	40	76	24	7.0	2.6	244	0	58
JUNE												
17...	1345	740	8.2	240	90	86	31	11	2.6	306	0	73
JULY												
08...	1230	1060	--	470	100	--	--	--	--	280	0	63
16...	1045	512	--	80	80	--	--	--	--	346	0	86
22...	1315	796	--	80	160	--	--	--	--	322	0	70
28...	1530	812	--	190	40	--	--	--	--	304	0	68
AUG.												
05...	1100	400	--	100	50	--	--	--	--	348	0	80
12...	1345	1120	--	180	50	--	--	--	--	328	0	77
19...	1325	528	--	260	100	--	--	--	--	348	0	81
26...	1330	420	--	50	40	--	--	--	--	340	4	81
SEPT.												
02...	1510	368	--	70	70	--	--	--	--	326	10	77
09...	1415	372	--	70	40	--	--	--	--	342	0	77
16...	1330	310	--	70	30	--	--	--	--	344	0	81
23...	1400	299	--	70	0	--	--	--	--	348	0	87
29...	1500	296	--	60	10	--	--	--	--	348	0	80

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TUR-BID-ITY (MG/L)	COLOR (THRES-HOLD NUMBER)
OCT.								
01...	.07	.10	11.8	124	0	.06	10	0
08...	.22	.05	11.5	108	3	.06	6.0	2
15...	.00	.10	13.8	150	0	.04	9.0	4
22...	.00	.10	11.4	110	0	.07	8.0	2
30...	.22	.10	14.0	126	2	.06	3.0	2
NOV.								
20...	.52	.05	11.0	88	15	.06	8.0	8
DEC.								
17...	.81	.05	13.4	94	9	.10	2.0	0
JAN.								
14...	1.1	.05	13.2	98	0	.06	2.4	4
FEB.								
11...	.15	.05	11.3	92	0	.11	25	0
MAR.								
11...	.42	.05	16.6	130	0	.09	9.0	2
APR.								
15...	.40	.10	8.8	85	2	.08	8.0	4
MAY								
20...	.39	.10	8.4	89	0	.04	85	4
JUNE								
17...	.00	.35	9.4	100	0	.09	60	2
JULY								
08...	.04	.20	8.2	91	17	.04	300	2
16...	.06	.10	7.6	87	0	.02	45	2
22...	.13	.05	8.2	93	0	.08	51	2
28...	.08	.10	7.4	85	0	.04	68	0
AUG.								
05...	.02	.05	8.8	96	0	.04	3.5	2
12...	.18	.10	7.8	85	1	.05	45	4
19...	.23	.05	8.4	95	0	.04	8.9	4
26...	.05	.10	11.6	132	2	.06	3.0	0
SEPT.								
02...	.01	.20	11.6	132	0	.06	6.0	2
09...	.19	.30	9.2	100	0	.06	6.0	2
16...	.12	.20	9.0	96	7	.06	6.0	2
23...	.15	.00	9.2	98	0	.09	8.0	2
29...	.05	.20	11.4	114	2	.06	6.0	0

3-2700. MAD RIVER NEAR DAYTON, OHIO--Continued

EXTREMES, 1968-69.--Specific conductance: Maximum, 1,210 micromhos Jan. 9; minimum, 240 micromhos Aug. 10.
Water temperatures: Maximum, 26°C July 17, 18; minimum, 1°C Feb. 14-16, Mar. 12.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June. Continuous water quality recorder operated since June 1968. Interruptions in the record were due to malfunctions of the instrument.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
01...	28	--	10	1.4	458	--	392	110	738	8.3	18	--
08...	24	--	9.4	1.6	448	--	376	98	721	8.2	13	--
15...	30	--	9.8	1.9	484	--	386	102	734	8.5	20	--
22...	26	--	9.0	1.6	456	--	392	107	737	8.2	14	--
30...	30	--	10	2.2	472	--	396	111	755	8.3	11	--
NOV.												
20...	30	.3	13	1.3	490	464	393	116	748	8.0	6	12
DEC.												
17...	28	.3	12	1.6	496	481	407	110	782	8.2	1	6
JAN.												
14...	30	.3	11	2.1	482	477	402	110	785	8.1	3	5
FEB.												
11...	24	.2	13	.79	452	430	365	99	716	8.1	7	5
MAR.												
11...	30	.2	12	1.3	462	446	375	97	733	8.4	5	10
APR.												
15...	22	.3	11	.36	446	431	367	98	712	8.1	14	5
MAY												
20...	15	.2	17	.47	352	331	288	88	547	7.9	19	20
JUNE												
17...	23	.3	17	.82	464	404	342	91	671	8.2	19	5
JULY												
08...	19	--	12	.95	368	--	322	92	592	8.0	21	--
16...	26	--	11	1.0	479	--	402	118	747	8.0	23	--
22...	23	--	12	.62	426	--	354	90	682	8.0	22	--
28...	17	--	10	.62	394	--	322	72	637	8.1	23	--
AUG.												
05...	25	--	12	1.3	486	--	385	100	771	8.1	20	--
12...	21	--	11	.75	428	--	360	90	692	8.0	20	--
19...	26	--	12	1.2	484	--	392	107	746	8.1	22	--
26...	24	--	8.7	1.1	448	--	388	103	741	8.3	22	--
SEPT.												
02...	24	--	9.9	1.3	452	--	388	104	732	8.4	22	--
09...	24	--	12	1.5	428	--	372	92	738	8.1	20	--
16...	24	--	13	2.8	452	--	384	102	740	8.1	19	--
23...	24	--	13	1.8	466	--	392	106	747	8.1	19	--
29...	27	--	12	1.8	448	--	392	107	750	8.2	16	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01...	--	--	--	--	--	--	--	--
08...	0	10	10	--	0	10	0	0
15...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
NOV.								
20...	--	--	--	--	--	--	--	--
DEC.								
17...	--	--	--	--	--	--	--	--
JAN.								
14...	--	--	--	--	--	--	--	--
FEB.								
11...	--	--	--	--	--	--	--	--
MAR.								
11...	--	--	--	--	--	--	--	--
APR.								
15...	--	--	--	--	--	--	--	--
MAY								
20...	--	--	--	--	--	--	--	--
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
AUG.								
05...	10	10	10	20	20	0	0	0
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--
SEPT.								
02...	--	--	--	--	--	--	--	--
09...	10	0	10	10	10	0	0	0
16...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--

3-2700. MAD RIVER NEAR DAYTON, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	800	740	800	730	830	600	---	---	740	700
2	---	---	770	740	770	740	1040	700	---	---	740	710
3	---	---	770	750	760	750	1110	1040	---	---	750	690
4	---	---	880	650	770	620	1080	560	---	---	750	700
5	---	---	750	670	840	670	900	670	---	---	730	700
6	---	---	730	690	1020	840	1190	850	---	---	740	680
7	---	---	730	620	1010	910	1170	980	---	---	750	700
8	---	---	850	560	1030	980	1100	470	---	---	740	700
9	---	---	570	490	1040	1010	1210	1080	---	---	730	690
10	750	720	530	440	1050	1020	1170	650	---	---	730	690
11	770	710	480	460	1050	990	980	610	---	---	750	690
12	760	730	470	440	1060	1020	1080	550	---	---	770	720
13	760	720	520	420	1030	980	1070	1010	730	700	740	710
14	750	720	530	450	990	950	1120	1050	740	700	740	690
15	760	700	600	530	1000	970	1060	1050	740	690	740	700
16	760	640	640	570	1000	940	1120	970	740	710	740	690
17	760	680	640	590	990	970	1090	930	760	700	720	680
18	770	720	610	530	1070	970	930	310	760	720	730	670
19	780	740	---	500	1040	930	560	290	750	710	740	650
20	790	750	590	420	940	820	740	540	790	710	710	620
21	880	750	590	380	900	850	840	730	760	700	740	680
22	920	850	510	390	970	850	910	820	740	710	760	690
23	960	850	590	430	860	780	830	770	830	710	820	680
24	970	930	620	580	850	780	890	590	760	720	730	650
25	990	930	620	580	920	850	900	500	750	710	800	640
26	1030	940	780	480	960	920	930	850	760	700	710	650
27	940	800	790	740	1010	880	940	810	770	710	710	670
28	940	880	810	630	---	640	1050	800	750	710	760	660
29	920	810	680	600	---	---	960	---	---	---	710	570
30	850	810	730	660	---	---	---	---	---	---	650	550
31	850	770	---	---	---	---	---	---	---	---	700	640

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	720	680	---	---	710	670	760	630	750	730	750	730
2	750	660	---	---	730	630	730	580	740	720	760	740
3	720	630	---	---	750	660	690	570	740	720	750	390
4	730	680	---	---	730	670	710	390	750	720	750	650
5	710	560	---	---	750	690	650	490	740	720	770	750
6	640	450	---	---	720	550	680	490	740	720	770	750
7	630	530	---	---	750	690	590	540	750	710	790	730
8	670	630	---	---	750	700	770	570	780	680	820	750
9	680	660	---	---	770	710	810	690	730	250	880	740
10	700	670	---	---	750	680	780	600	420	240	830	810
11	700	680	---	---	720	640	650	550	650	420	840	730
12	730	680	---	---	700	500	740	650	700	650	800	670
13	710	680	---	---	640	440	760	730	720	700	760	690
14	710	670	---	---	700	590	790	730	730	720	760	680
15	720	670	---	---	730	650	790	730	740	720	750	690
16	690	650	---	---	760	690	780	750	750	720	760	690
17	700	630	---	---	750	720	780	730	730	720	900	630
18	670	590	---	---	750	710	790	710	740	720	880	730
19	590	480	---	---	770	720	780	720	740	720	---	---
20	620	510	---	---	770	310	710	430	730	710	---	---
21	670	610	---	---	530	300	830	690	730	720	---	---
22	710	660	---	---	600	360	760	680	750	730	---	---
23	710	680	---	---	620	360	730	590	760	740	---	---
24	710	690	---	---	710	620	690	600	760	730	760	750
25	710	670	---	---	730	670	710	690	770	700	780	710
26	710	660	---	---	740	700	710	680	770	720	780	750
27	720	640	730	700	760	710	720	560	760	730	860	780
28	700	640	740	690	760	690	650	550	760	720	850	770
29	680	640	740	680	740	670	760	630	730	670	810	780
30	---	---	730	680	760	710	760	720	750	730	800	770
31	---	---	730	670	---	---	750	730	750	720	---	---

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3-2700. MAD RIVER NEAR DAYTON, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	7.4	7.3	---	---
2	---	---	---	---	---	---	---	---	7.5	7.3	---	---
3	---	---	---	---	---	---	---	---	7.6	7.3	---	---
4	---	---	---	---	---	---	---	---	7.6	7.4	---	---
5	---	---	---	---	---	---	---	---	7.5	7.4	---	---
6	---	---	---	---	---	---	---	---	7.5	7.4	---	---
7	---	---	---	---	---	---	---	---	7.4	7.4	---	---
8	---	---	---	---	---	---	---	---	7.5	7.4	---	---
9	---	---	---	---	---	---	---	---	7.5	7.4	---	---
10	8.5	8.0	---	---	---	---	---	---	7.4	7.4	---	---
11	8.7	8.1	---	---	---	---	---	---	7.5	7.4	---	---
12	9.0	8.4	---	---	---	---	---	---	7.5	7.4	---	---
13	9.2	8.7	---	---	---	---	---	---	7.6	7.5	---	---
14	9.0	8.5	---	---	---	---	---	---	---	---	---	---
15	8.6	8.1	---	---	---	---	---	---	---	---	---	---
16	8.4	7.9	---	---	---	---	---	---	---	---	---	---
17	8.3	7.9	---	---	---	---	---	---	---	---	---	---
18	8.2	7.8	---	---	---	---	---	---	---	---	---	---
19	8.7	8.0	---	---	---	---	---	---	---	---	---	---
20	8.4	8.2	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	7.7	7.4	---	---	---	---
29	---	---	---	---	---	---	7.7	7.4	---	---	---	---
30	---	---	---	---	---	---	7.4	7.2	---	---	---	---
31	---	---	---	---	---	---	7.4	7.2	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.4	7.9	8.3	8.0	8.2	7.8	8.6	8.1
2	8.4	8.2	---	---	8.6	7.9	8.4	7.9	8.3	7.8	8.6	8.2
3	8.6	8.1	---	---	8.4	7.3	8.3	7.9	8.4	7.9	8.2	7.9
4	8.5	8.2	---	---	8.5	7.5	8.3	7.8	8.5	8.0	8.4	7.9
5	8.2	8.0	---	---	8.6	7.9	7.8	7.6	8.5	8.0	8.3	7.9
6	8.1	8.0	---	---	8.6	7.9	7.8	7.6	8.5	8.0	8.4	8.0
7	8.2	8.1	---	---	8.8	8.3	7.8	7.6	8.6	8.1	8.0	7.9
8	8.3	8.1	---	---	8.8	8.2	7.7	7.2	8.8	8.1	8.3	8.0
9	8.2	8.1	---	---	8.7	8.0	7.6	7.1	8.2	8.0	8.5	8.0
10	8.3	8.1	---	---	8.6	8.0	7.7	7.3	8.0	7.6	8.6	8.3
11	8.3	8.1	---	---	8.6	7.8	7.7	7.0	7.9	7.6	---	8.2
12	8.4	8.1	---	---	8.3	7.9	7.8	7.1	8.1	7.7	---	---
13	8.4	8.1	---	---	8.1	7.9	8.0	7.5	8.1	7.7	---	---
14	8.3	8.0	---	---	8.1	7.6	8.1	7.7	8.1	7.7	---	---
15	8.3	8.0	---	---	8.3	7.9	8.1	7.7	8.2	7.9	---	---
16	8.4	8.0	---	---	8.2	8.0	8.1	7.9	8.2	7.9	---	---
17	8.4	7.9	---	---	8.3	7.5	8.1	7.8	8.2	8.0	8.1	7.8
18	8.3	7.8	---	---	8.2	7.7	8.0	7.7	8.2	7.7	---	---
19	8.0	7.8	---	---	8.6	7.9	8.0	7.8	8.2	7.7	---	---
20	8.2	8.0	---	---	8.3	7.9	7.8	7.4	8.3	7.9	---	---
21	8.2	8.0	---	---	7.9	7.2	7.5	7.1	8.5	7.9	---	---
22	8.2	8.0	---	---	7.5	7.0	7.3	7.2	8.6	8.1	---	---
23	8.4	8.0	---	---	7.2	6.2	8.0	7.3	8.6	8.1	---	---
24	8.4	8.1	---	---	6.8	5.9	8.0	7.5	8.6	8.1	7.8	7.4
25	8.5	8.2	---	---	7.5	6.8	8.1	7.6	8.7	8.1	7.6	7.2
26	8.3	8.2	---	---	7.8	7.3	8.2	7.7	8.7	8.1	7.6	7.1
27	8.3	7.9	---	---	8.1	7.7	8.7	7.9	8.8	8.2	7.5	7.1
28	8.3	7.9	---	---	8.1	7.9	8.2	7.9	8.8	8.2	7.6	7.2
29	8.3	7.9	---	---	8.3	7.9	8.2	7.9	8.8	8.2	7.7	7.2
30	---	---	8.1	---	8.3	8.1	8.2	7.6	8.8	8.2	7.6	7.3
31	---	---	8.4	7.5	---	---	8.2	7.6	8.8	8.1	---	---

3-2700. MAD RIVER NEAR DAYTON, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	11.7	3.2	---	---	---	---
29	---	---	---	---	---	---	7.4	3.1	---	---	---	---
30	---	---	---	---	---	---	5.6	3.8	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	13.7	10.0	---	---	---	---	---	---
2	---	---	---	---	12.5	10.7	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	11.6	7.7
26	---	---	---	---	---	---	---	---	---	---	11.2	7.7
27	---	---	8.2	6.0	---	---	---	---	---	---	9.6	8.0
28	---	---	8.4	5.9	---	---	---	---	---	---	11.4	8.0
29	---	---	10.6	6.8	---	---	---	---	---	---	12.3	9.0
30	---	---	11.9	8.3	---	---	---	---	---	---	13.1	9.1
31	---	---	12.6	9.5	---	---	---	---	---	---	---	---

3-2700. MAD RIVER NEAR DAYTON, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	CCTO8ER		NOVEM8ER		DECEM8ER		JANUARY		FE8RUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	11.0	7.0	11.0	9.0	6.0	3.0	6.0	5.0	5.0	3.0
2	---	---	10.0	9.0	13.0	10.0	4.0	2.0	5.0	5.0	5.0	3.0
3	---	---	9.0	9.0	15.0	12.0	5.0	3.0	6.0	4.0	5.0	2.0
4	---	---	10.0	9.0	14.0	8.0	4.0	2.0	4.0	4.0	6.0	3.0
5	---	---	10.0	9.0	8.0	6.0	3.0	2.0	5.0	4.0	6.0	3.0
6	---	---	11.0	9.0	8.0	6.0	8.0	2.0	6.0	4.0	6.0	4.0
7	---	---	10.0	8.0	---	---	7.0	2.0	6.0	5.0	6.0	4.0
8	---	---	9.0	8.0	---	---	4.0	2.0	6.0	5.0	5.0	4.0
9	---	---	10.0	8.0	---	---	8.0	4.0	5.0	3.0	5.0	4.0
10	18.0	15.0	10.0	6.0	---	---	7.0	3.0	4.0	3.0	4.0	3.0
11	18.0	15.0	10.0	5.0	---	---	4.0	2.0	6.0	4.0	4.0	2.0
12	17.0	15.0	10.0	7.0	---	---	5.0	2.0	4.0	3.0	4.0	1.0
13	18.0	16.0	11.0	7.0	---	---	9.0	2.0	4.0	2.0	6.0	2.0
14	18.0	16.0	11.0	6.0	---	---	---	6.0	4.0	1.0	5.0	3.0
15	19.0	16.0	11.0	8.0	---	---	---	---	2.0	1.0	6.0	3.0
16	19.0	16.0	8.0	7.0	---	---	---	3.0	2.0	1.0	7.0	3.0
17	19.0	17.0	13.0	7.0	---	---	5.0	4.0	4.0	2.0	8.0	4.0
18	19.0	18.0	13.0	10.0	12.0	8.0	4.0	3.0	6.0	3.0	9.0	5.0
19	18.0	16.0	14.0	12.0	12.0	10.0	---	3.0	6.0	3.0	11.0	6.0
20	17.0	15.0	15.0	11.0	11.0	8.0	8.0	5.0	6.0	4.0	10.0	8.0
21	16.0	13.0	17.0	12.0	8.0	6.0	6.0	5.0	7.0	3.0	8.0	5.0
22	14.0	13.0	15.0	12.0	6.0	5.0	7.0	6.0	6.0	4.0	9.0	5.0
23	14.0	12.0	16.0	12.0	6.0	4.0	8.0	7.0	5.0	5.0	8.0	5.0
24	13.0	12.0	15.0	12.0	4.0	2.0	8.0	7.0	5.0	4.0	8.0	6.0
25	12.0	11.0	15.0	6.0	3.0	2.0	7.0	4.0	5.0	4.0	7.0	5.0
26	12.0	11.0	10.0	7.0	3.0	2.0	6.0	2.0	4.0	4.0	7.0	4.0
27	12.0	10.0	11.0	10.0	5.0	3.0	5.0	2.0	4.0	3.0	7.0	4.0
28	11.0	9.0	14.0	11.0	6.0	5.0	4.0	3.0	5.0	2.0	8.0	5.0
29	10.0	9.0	14.0	10.0	6.0	6.0	5.0	3.0	---	---	8.0	5.0
30	11.0	9.0	12.0	10.0	7.0	6.0	7.0	5.0	---	---	6.0	4.0
31	10.0	8.0	---	---	8.0	6.0	7.0	5.0	---	---	8.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEM8ER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	6.0	---	---	22.0	19.0	22.0	19.0	24.0	20.0	22.0	21.0
2	9.0	8.0	---	---	21.0	18.0	23.0	19.0	24.0	20.0	22.0	21.0
3	12.0	8.0	---	---	21.0	17.0	23.0	21.0	23.0	20.0	23.0	20.0
4	14.0	10.0	---	---	22.0	17.0	24.0	21.0	23.0	19.0	23.0	20.0
5	15.0	13.0	---	---	22.0	18.0	22.0	20.0	24.0	19.0	23.0	21.0
6	14.0	10.0	---	---	22.0	19.0	21.0	19.0	24.0	20.0	25.0	21.0
7	12.0	9.0	---	---	22.0	17.0	20.0	19.0	24.0	20.0	23.0	21.0
8	14.0	10.0	---	---	22.0	17.0	21.0	19.0	25.0	21.0	23.0	20.0
9	14.0	12.0	---	---	22.0	18.0	23.0	20.0	22.0	20.0	20.0	18.0
10	14.0	13.0	---	---	23.0	20.0	24.0	21.0	20.0	19.0	20.0	17.0
11	15.0	11.0	---	---	24.0	20.0	24.0	21.0	21.0	19.0	---	16.0
12	15.0	11.0	---	---	22.0	19.0	24.0	21.0	21.0	19.0	---	---
13	14.0	10.0	---	---	19.0	15.0	24.0	20.0	22.0	19.0	---	---
14	14.0	12.0	---	---	18.0	15.0	25.0	20.0	23.0	20.0	---	---
15	14.0	13.0	---	---	20.0	16.0	24.0	21.0	23.0	20.0	---	---
16	18.0	13.0	---	---	19.0	17.0	25.0	22.0	23.0	21.0	---	---
17	19.0	14.0	---	---	20.0	17.0	26.0	22.0	22.0	20.0	20.0	19.0
18	18.0	15.0	---	---	22.0	18.0	26.0	22.0	23.0	20.0	---	17.0
19	15.0	9.0	---	---	22.0	18.0	25.0	22.0	23.0	21.0	---	---
20	12.0	8.0	---	---	19.0	17.0	23.0	21.0	24.0	20.0	---	---
21	12.0	10.0	---	---	19.0	18.0	23.0	21.0	23.0	19.0	---	---
22	12.0	10.0	---	---	20.0	19.0	22.0	21.0	23.0	18.0	---	---
23	11.0	10.0	---	---	20.0	19.0	23.0	20.0	23.0	18.0	---	---
24	13.0	9.0	---	---	22.0	20.0	23.0	21.0	23.0	19.0	20.0	18.0
25	15.0	10.0	---	---	23.0	21.0	24.0	20.0	23.0	20.0	18.0	16.0
26	16.0	11.0	---	---	24.0	21.0	25.0	21.0	24.0	20.0	18.0	15.0
27	18.0	13.0	20.0	17.0	24.0	20.0	24.0	22.0	24.0	20.0	17.0	16.0
28	17.0	14.0	21.0	17.0	22.0	20.0	23.0	21.0	23.0	19.0	17.0	14.0
29	17.0	12.0	22.0	18.0	23.0	20.0	21.0	20.0	24.0	20.0	16.0	14.0
30	---	---	23.0	18.0	23.0	19.0	22.0	19.0	24.0	20.0	18.0	14.0
31	---	---	22.0	18.0	---	---	23.0	19.0	24.0	20.0	---	---

3-2713.5. GREAT MIAMI RIVER AT WEST CARROLLTON, OHIO

LOCATION.--Lat 39°40'28", long 84°15'42", Montgomery County, at bridge on Farmersville-West Carrollton Road, at West Carrollton.
DRAINAGE AREA.--2,647 sq mi.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.												
01...	1600	--	110	90	--	--	--	--	326	0	98	50
08...	1515	--	150	60	--	--	--	--	314	0	95	50
16...	1030	--	150	60	--	--	--	--	326	0	101	50
22...	1000	--	120	50	--	--	--	--	330	0	99	50
31...	1230	--	140	80	--	--	--	--	332	0	100	52
NOV.												
20...	--	8.6	290	30	83	29	16	3.5	268	0	86	29
DEC.												
18...	0845	8.1	160	40	90	34	26	2.9	326	0	94	36
JAN.												
15...	1000	9.0	120	50	94	37	30	3.0	364	0	99	42
FEB.												
11...	1615	7.1	310	20	71	29	14	2.4	258	0	69	24
MAR.												
11...	1545	4.0	120	50	86	34	25	2.6	318	0	87	36
APR.												
15...	1500	4.7	120	20	75	33	18	2.1	286	0	80	29
MAY												
21...	0915	10	190	30	56	19	5.4	3.0	172	0	45	14
JUNE												
17...	1100	7.1	80	20	75	30	14	2.6	260	0	61	25
JULY												
08...	1515	--	300	80	--	--	--	--	262	0	61	26
15...	1345	--	70	120	--	--	--	--	314	0	76	32
22...	1415	--	460	100	--	--	--	--	242	0	50	19
29...	0830	--	60	30	--	--	--	--	282	0	71	29
AUG.												
05...	1640	--	130	50	--	--	--	--	296	12	82	35
12...	1500	--	200	50	--	--	--	--	216	0	46	13
19...	0930	--	60	30	--	--	--	--	324	0	83	32
27...	1015	--	50	30	--	--	--	--	324	0	84	42
SEPT.												
02...	1600	--	80	40	--	--	--	--	318	0	85	44
09...	1900	--	90	30	--	--	--	--	319	0	90	49
16...	1430	--	100	30	--	--	--	--	316	0	94	50
23...	1515	--	50	20	--	--	--	--	--	312	94	50
30...	1015	--	70	10	--	--	--	--	322	0	96	53

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.								
01...	2.4	.10	6.1	73	0	.14	20	8
08...	2.6	.05	7.8	85	12	.12	20	4
16...	2.2	.10	4.0	46	2	.11	9.0	4
22...	2.3	.05	6.2	67	20	.11	15	4
31...	2.3	.10	6.2	64	3	.12	8.0	4
NOV.								
20...	.81	.05	--	--	4	.07	40	4
DEC.								
18...	1.7	.05	10.8	84	12	.24	7.0	4
JAN.								
15...	1.9	.05	11.1	87	11	.11	25	8
FEB.								
11...	.44	.05	12.0	96	1	.14	80	4
MAR.								
11...	1.1	.05	11.8	94	5	.10	20	4
APR.								
15...	.59	.05	9.2	95	2	.13	8.0	0
MAY								
21...	.77	.20	9.4	97	0	.05	90	2
JUNE								
17...	.31	.25	8.2	87	0	.10	70	4
JULY								
08...	.22	.20	8.6	99	0	.09	200	4
15...	.32	.05	7.6	96	3	.00	50	4
22...	.32	.05	7.8	92	2	.07	100	4
29...	.48	.10	6.0	70	0	.09	40	4
AUG.								
05...	.44	.10	10.0	126	3	.16	10	8
12...	.34	.05	8.2	93	1	.05	100	4
19...	.80	.05	5.6	69	5	.14	30	8
27...	1.5	.05	6.8	83	4	.15	25	4
SEPT.								
02...	1.5	.30	5.8	72	1	.11	17	4
09...	1.6	.50	5.7	70	2	.27	20	4
16...	1.1	.50	6.6	80	8	.20	20	4
23...	.94	.00	6.2	76	6	.20	20	4
30...	2.3	.60	5.6	62	7	.16	20	4

3-2713.5. GREAT MIAMI RIVER AT WEST CARROLLTON, OHIO--Continued

PERIOD OF RECORD.--Chemical analyses: April 1965 to September 1969.
REMARKS.--Samples for iron and manganese filtered clear when collected. Samples collected weekly October, July to September, and monthly November to June. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.											
01...	--	7.2	5.0	488	--	352	84	813	8.0	25	--
08...	--	7.3	6.0	474	--	342	84	800	7.7	20	--
16...	--	6.7	6.8	520	--	356	88	820	7.9	23	--
22...	--	5.5	5.8	498	--	364	93	830	7.8	20	--
31...	--	7.5	7.2	494	--	358	86	839	7.7	17	--
NOV.											
20...	.4	19	1.8	438	409	326	107	674	7.6	5	30
DEC.											
18...	.5	11	3.4	478	468	365	98	772	8.0	5	5
JAN.											
15...	.6	13	3.8	488	512	387	88	839	7.8	5	9
FEB.											
11...	.2	16	.78	382	361	296	84	622	8.0	6	5
MAR.											
11...	.4	11	2.2	446	445	355	94	748	8.2	6	10
APR.											
15...	.4	11	.46	404	395	323	88	678	8.2	17	7
MAY											
21...	.3	22	.50	282	260	218	76	439	7.7	17	35
JUNE											
17...	.3	33	1.4	438	378	311	98	627	8.1	19	10
JULY											
08...	--	13	1.4	379	--	304	89	586	8.0	23	--
15...	--	12	2.1	453	--	360	102	703	8.0	28	--
22...	--	14	.82	338	--	264	65	542	8.0	24	--
29...	--	9.6	1.8	414	--	333	102	674	8.1	24	--
AUG.											
05...	--	7.4	3.0	470	--	352	89	749	8.5	28	--
12...	--	11	1.2	288	--	242	64	472	7.8	22	--
19...	--	8.3	3.1	454	--	346	80	739	8.2	27	--
27...	--	7.4	3.7	464	--	352	86	775	8.1	26	--
SEPT.											
02...	--	5.5	3.9	448	--	360	99	753	8.2	27	--
09...	--	5.0	4.6	462	--	332	70	804	8.2	26	--
16...	--	7.9	6.0	496	--	336	76	828	7.9	26	--
23...	--	8.3	5.6	468	--	346	90	803	7.8	26	--
30...	--	9.4	5.2	500	--	352	88	841	7.8	21	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01...	--	--	--	--	--	--	--	--
08...	20	40	10	--	30	0	10	10
16...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
NOV.								
20...	--	--	--	--	--	--	--	--
DEC.								
18...	--	--	--	--	--	--	--	--
JAN.								
15...	--	--	--	--	--	--	--	--
FEB.								
11...	--	--	--	--	--	--	--	--
MAR.								
11...	--	--	--	--	--	--	--	--
APR.								
15...	--	--	--	--	--	--	--	--
MAY								
21...	--	--	--	--	--	--	--	--
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
AUG.								
05...	10	20	10	10	20	0	0	0
12...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--
SEPT.								
02...	--	--	--	--	--	--	--	--
09...	30	90	20	10	30	0	0	0
16...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO

LOCATION.--Lat 39°36'39", long 84°17'28", Montgomery County, at Chautauqua Road bridge, about 2 miles south of Miamisburg, off Old U.S. Highway 25, and 2.6 miles downstream from gaging station at Miamisburg.
DRAINAGE AREA.--2,715 sq mi.
PERIOD OF RECORD.--Chemical analyses: November 1961 to September 1969.
Water temperatures: March 1964 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 960 micromhos Jan. 10; minimum, 300 micromhos Jan. 30.
pH: Maximum, 9.2 Dec. 19; minimum, 7.0 Nov. 8.
Water temperatures: Maximum, 33°C July 18; minimum, 4°C Jan. 19, 29.
EXTREMES, 1964-69.--Specific conductance: Maximum, 1,110 micromhos Dec. 29, 1966; minimum, 270 micromhos Apr. 22, 1964.
pH: Maximum, 9.2 Dec. 19, 1968; minimum, 6.8 July 6, 7, Nov. 4, 1965.
Dissolved oxygen (1964-68): Maximum, 15.0 mg/l June 8, 1964, Nov. 26, 30, 1966, July 6-8, 1968; minimum, 0.0 mg/l on many days during 1964-66.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
04...	1400	665	260	0	81	45	.6
30...	1415	540	316	0	100	54	.7
NOV.							
02...	1500	524	320	0	100	54	.7
07...	0830	629	150	0	71	28	.6
DEC.							
17...	1100	1220	304	0	92	38	.4
31...	1300	6360	224	0	65	24	.2
JAN.							
10...	1330	1330	328	0	94	59	.6
30...	1330	25200	116	0	36	14	.4
FEB.							
03...	1340	10200	236	0	60	21	.3
MAR.							
05...	0830	1410	320	0	93	36	.4
24...	1300	1770	255	0	82	29	.5
APR.							
07...	1300	10600	176	0	48	16	.3
30...	1330	2030	293	0	82	30	.5
MAY							
01...	1430	1860	300	0	86	31	.5
09...	1315	2870	104	0	53	12	.4
JUNE							
11...	0845	1200	248	20	84	42	.7
24...	0815	11100	192	0	42	16	.3
JULY							
02...	1500	1850	282	14	80	34	.5
22...	0900	4600	238	0	51	21	.4
AUG.							
12...	1230	6540	214	0	44	15	.4
29...	--	971	308	0	89	52	.8
SEPT.							
17...	0900	737	22	0	45	16	1.4
30...	0830	710	298	0	102	54	.6

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)
OCT.							
02-09	.00	.00	.00	.00	.00	.00	.03
NOV.							
06-14	.00	.00	.01	.02	.00	.00	.00
APR.							
22-30	.06	.00	.00	.00	.00	.00	.00
MAY							
09-28	.00	.00	.06	.07	.00	.00	.00
JUNE							
17-26	.00	.00	.06	.00	.00	.00	.00
JULY							
02-26	.00	.00	.00	.00	.02	.00	.00
AUG.							
25-30	.00	.00	.00	.00	.00	.00	.00
SEPT.							
23-27	.00	.00	.00	.00	.00	.00	.00

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO--Continued

EXTREMES, 1964-69--Continued
Water temperatures: Maximum, 37°C Aug. 16-18, 1965; minimum, 4°C Jan. 31, 1965, Jan. 30, 31, 1966, Dec. 27, 1967, Jan. 2, 1968, Jan. 19, 29, 1969.

REMARKS.--Continuous water quality recorder operated since March 1964 and is installed in the basement of O. H. Hutchings power station, 400 ft downstream from Chautauqua Road bridge, and takes water from channel under building. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, daily samples were collected by a local observer. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 03-2715.00 Great Miami River at Miamisburg, Ohio (drainage area 2,711 sq mi). Samples were collected at the bridge for pesticide analyses to determine the extent and magnitude of pesticide contamination in the stream.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.						
04...	11	432	292	78	713	7.3
30...	16	532	351	92	857	7.2
NOV.						
02...	15	510	365	103	861	7.5
07...	16	316	208	85	503	8.0
DEC.						
17...	16	464	370	121	766	7.6
31...	17	332	245	62	567	7.5
JAN.						
10...	5.4	580	380	111	859	7.6
30...	7.8	220	141	46	316	8.2
FEB.						
03...	16	344	255	61	554	7.6
MAR.						
05...	14	452	362	100	767	7.9
24...	12	376	304	94	658	7.5
APR.						
07...	22	262	222	78	452	7.4
30...	14	414	330	90	710	7.6
MAY						
01...	14	436	343	97	720	7.5
09...	8.8	190	150	65	339	7.1
JUNE						
11...	15	440	356	153	755	8.5
24...	22	264	217	60	448	7.4
JULY						
02...	17	476	378	123	732	8.4
22...	15	370	263	68	546	7.0
AUG.						
12...	11	314	234	58	463	7.6
29...	11	518	350	97	812	7.2
SEPT.						
17...	13	130	87	69	213	6.5
30...	16	510	378	134	830	7.1

DATE	HEPTACHLOR EPOXIDE (UG/L)	METHOXYCHLOR (UG/L)	LINDANE (UG/L)	CHLORDANE (UG/L)	MALATHION (UG/L)	METHYL PARATHION (UG/L)	PARATHION (UG/L)
OCT.							
02-09	.00	.00	.00	.00	.00	.00	.00
NOV.							
06-14	.00	.00	.00	.00	.00	.00	.00
APR.							
22-30	.00	.00	.00	.00	.00	.00	.00
MAY							
09-28	.00	.00	.09	.00	.00	.00	.00
JUNE							
17-26	.00	.00	.00	.00	.00	.00	.00
JULY							
02-26	.00	.00	.00	.00	.00	.00	.00
AUG.							
25-30	.00	.00	.00	.00	.00	.00	.00
SEPT.							
23-27	.00	.00	.00	.00	.00	.00	.00

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	810	800	840	830	620	580	650	610	470	370	750	740
2	820	800	840	830	650	570	700	650	510	470	770	740
3	800	760	850	830	650	630	720	700	600	510	770	750
4	770	690	850	820	630	580	740	720	620	590	780	770
5	790	730	840	810	620	590	760	730	640	610	790	760
6	800	750	860	840	650	600	780	740	670	540	770	760
7	780	760	860	710	650	620	820	770	690	660	780	770
8	790	760	800	720	700	640	800	710	690	530	780	770
9	810	780	750	700	720	690	920	760	620	540	770	690
10	810	730	760	730	740	690	960	840	610	580	770	750
11	820	800	740	720	750	730	860	830	670	610	770	740
12	810	800	770	720	760	740	850	810	690	670	770	740
13	820	800	780	760	770	740	840	810	700	670	770	760
14	810	790	780	760	770	740	840	810	710	680	780	770
15	810	790	790	710	750	730	840	810	720	680	780	760
16	830	810	710	550	770	750	820	800	720	690	780	760
17	820	810	630	560	780	750	830	530	720	690	770	750
18	830	810	640	530	790	750	530	410	740	710	790	770
19	840	830	640	610	860	770	420	330	740	720	790	770
20	840	820	700	630	790	750	470	390	750	730	790	770
21	840	800	720	690	770	760	540	470	750	720	780	760
22	830	790	740	710	770	650	600	540	750	730	780	760
23	830	810	750	730	690	630	640	480	760	720	780	760
24	830	800	740	680	710	690	650	630	760	680	760	640
25	840	800	710	680	730	690	650	620	680	650	740	690
26	840	820	700	650	740	700	660	630	750	650	740	700
27	840	810	670	650	740	640	690	660	760	740	710	670
28	840	810	680	600	640	490	750	550	760	740	700	680
29	830	810	660	600	510	460	750	340	---	---	710	690
30	860	820	670	570	550	480	560	300	---	---	710	650
31	850	820	---	---	610	550	400	350	---	---	650	620

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	670	640	740	720	700	640	700	680	750	720	790	770
2	710	670	750	730	680	630	720	690	760	720	790	770
3	720	710	760	710	700	630	730	690	770	710	790	710
4	730	710	750	700	710	680	700	670	760	710	800	710
5	750	640	730	680	720	690	700	620	770	710	780	750
6	660	430	740	700	720	680	700	490	770	730	810	780
7	510	440	740	710	730	690	610	490	770	710	---	---
8	570	510	730	670	720	680	630	580	750	710	---	---
9	610	570	700	620	710	670	680	550	750	700	830	810
10	620	580	670	600	740	690	690	670	710	370	830	820
11	660	620	680	650	750	710	710	680	470	380	830	820
12	690	660	670	620	740	690	700	590	540	460	860	830
13	690	670	660	640	710	630	640	600	660	540	840	810
14	680	670	660	650	720	660	690	640	690	660	840	820
15	690	650	680	660	700	640	720	670	710	680	830	800
16	690	630	700	670	650	570	700	680	730	700	830	810
17	670	650	700	670	680	640	710	680	730	700	840	---
18	660	570	670	500	720	680	710	680	720	700	760	640
19	610	470	530	390	730	710	750	690	740	720	750	640
20	470	420	420	380	740	710	740	460	760	710	770	740
21	540	420	480	420	750	720	540	450	770	730	790	770
22	600	540	530	480	760	720	670	540	780	720	790	770
23	650	590	600	530	720	380	620	570	780	730	800	770
24	680	650	630	600	530	440	670	600	770	730	800	770
25	680	660	640	620	470	380	680	650	770	720	790	720
26	700	680	670	640	560	430	710	680	780	730	810	720
27	720	690	690	670	610	560	710	680	800	750	820	800
28	710	690	700	680	650	600	690	650	790	750	830	810
29	720	700	710	670	670	650	700	660	810	780	830	820
30	730	710	720	670	680	660	710	690	810	780	840	820
31	---	---	700	660	---	---	740	710	820	790	---	---

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.2	7.9	8.1	7.2	8.4	8.2	8.2	7.9	8.2	7.9	8.1	7.7
2	8.1	7.2	8.5	7.9	8.3	7.8	8.1	7.8	8.3	8.1	8.2	7.9
3	8.3	7.6	8.5	8.1	8.4	7.8	8.2	8.0	8.2	8.1	8.2	8.0
4	8.2	8.0	8.6	8.1	8.4	7.9	8.3	8.1	8.2	8.1	8.3	8.1
5	8.2	8.0	8.6	8.0	8.2	8.0	8.4	8.2	8.2	8.0	8.3	8.0
6	8.1	7.9	8.5	7.9	8.4	7.8	8.4	8.2	8.2	8.0	8.2	8.0
7	8.4	8.1	8.5	7.2	8.3	8.2	8.3	8.1	8.2	8.0	8.1	8.0
8	8.4	7.9	8.1	7.0	8.2	8.1	8.3	8.1	8.1	7.9	8.2	8.0
9	8.1	7.9	7.8	7.1	8.3	8.0	8.2	8.1	8.2	7.9	8.2	8.1
10	8.1	7.8	8.2	7.5	8.3	8.2	8.2	8.1	8.1	8.0	8.3	8.0
11	8.2	7.9	8.3	7.5	8.3	8.2	8.2	8.1	8.2	8.0	8.4	8.1
12	8.1	7.8	8.3	7.8	8.3	8.2	8.2	8.0	8.2	8.1	8.7	8.3
13	8.1	7.8	8.0	7.2	8.4	8.2	8.2	8.0	8.2	8.1	8.7	8.2
14	8.1	7.8	8.1	7.8	8.3	8.1	8.2	8.0	8.2	8.0	8.4	8.2
15	8.0	7.8	8.1	7.8	8.2	8.1	8.3	8.1	8.2	8.0	8.4	8.2
16	7.9	7.7	8.2	7.5	8.2	8.1	8.3	8.1	8.2	8.0	8.4	8.2
17	7.8	7.7	8.3	7.5	8.2	8.1	8.2	8.1	8.2	8.1	8.4	8.2
18	8.0	7.8	8.0	7.7	8.3	8.1	8.3	8.2	8.3	8.1	8.4	8.1
19	7.9	7.7	8.1	7.7	9.2	8.1	8.3	8.0	8.3	8.1	8.4	8.1
20	7.9	7.8	8.4	7.7	9.0	8.3	8.3	8.1	8.3	8.2	8.7	8.1
21	8.2	7.9	8.3	7.8	8.8	8.3	8.2	8.1	8.4	8.2	8.5	8.3
22	8.2	8.1	8.3	8.1	8.5	8.2	8.3	8.1	8.5	8.3	8.4	8.2
23	8.2	7.9	8.5	8.1	8.5	8.3	8.3	8.1	8.5	8.4	8.5	8.2
24	8.1	8.0	8.5	7.5	8.5	8.2	8.3	8.1	8.6	8.4	8.4	8.2
25	8.1	7.9	8.5	7.9	8.4	8.0	8.3	8.1	8.5	8.4	8.2	7.9
26	8.1	7.9	8.1	8.0	8.4	8.2	8.3	8.1	8.5	7.9	8.3	7.9
27	8.1	8.0	8.3	8.0	8.4	8.1	8.3	8.0	8.2	7.5	8.3	8.1
28	8.2	8.1	8.3	8.2	8.5	8.4	8.3	8.0	8.1	7.7	8.1	7.9
29	8.1	7.6	8.4	8.0	8.3	8.1	8.3	8.0	---	---	8.2	7.9
30	7.8	7.2	8.4	8.0	8.2	8.0	8.2	7.9	---	---	8.3	7.9
31	7.7	7.1	---	---	8.3	8.1	8.2	8.0	---	---	7.9	7.7

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	7.8	8.4	8.0	8.5	8.3	8.1	8.0	7.9	7.6	8.1	8.0
2	8.0	7.7	8.4	8.0	8.4	8.1	8.3	7.8	8.0	7.6	8.1	8.0
3	7.9	7.7	8.4	7.8	8.3	7.8	8.2	7.9	8.2	7.7	8.0	7.7
4	8.1	7.7	8.5	7.9	8.2	7.8	8.4	7.9	8.2	7.7	7.9	7.7
5	8.0	7.7	8.7	8.0	8.3	8.0	8.5	8.2	8.1	7.7	7.8	7.6
6	7.8	7.4	8.5	7.9	8.3	7.9	8.3	7.9	8.1	7.8	7.8	7.8
7	7.5	7.4	8.4	7.7	8.2	7.8	8.1	7.9	8.2	7.7	---	---
8	7.6	7.4	8.2	7.7	8.3	7.8	8.2	8.1	8.2	7.6	---	---
9	7.8	7.6	8.1	7.7	8.3	8.0	8.2	8.0	8.1	7.5	8.0	7.9
10	7.7	7.6	8.1	7.8	8.4	7.9	8.2	8.0	7.7	7.4	8.1	7.9
11	7.8	7.7	8.2	8.0	8.4	8.0	8.1	8.0	7.5	7.4	8.2	8.1
12	7.9	7.8	8.1	8.1	8.3	7.8	8.1	7.9	7.6	7.5	8.1	8.0
13	7.9	7.8	8.1	8.0	8.0	7.8	8.1	8.0	7.7	7.6	8.0	7.9
14	8.0	7.8	8.2	8.0	7.9	7.7	8.2	8.0	7.7	7.5	8.3	8.0
15	7.9	7.7	8.0	7.9	7.9	7.7	8.2	7.9	7.8	7.6	8.4	8.1
16	8.1	7.7	8.0	7.9	7.8	7.7	8.1	7.8	7.9	7.6	8.3	8.0
17	8.1	7.8	8.0	7.6	7.9	7.7	8.2	7.7	7.9	7.8	8.1	7.9
18	8.1	7.8	8.0	7.9	8.0	7.8	8.3	7.6	7.9	7.8	8.2	7.9
19	7.9	7.8	8.1	7.9	8.0	7.8	8.1	7.7	7.9	7.7	8.6	7.9
20	7.9	7.7	7.9	7.8	8.0	7.8	7.9	7.5	8.0	7.7	8.6	8.3
21	7.9	7.8	7.9	7.9	8.1	7.8	7.9	7.8	8.1	7.7	8.5	8.2
22	7.9	7.8	7.9	7.9	8.1	7.9	7.9	7.8	8.1	7.7	8.3	8.2
23	8.0	7.9	8.0	7.9	8.0	7.6	7.9	7.8	8.2	7.6	8.2	8.0
24	8.1	8.0	8.1	8.0	8.1	7.6	7.9	7.6	8.3	7.9	8.1	8.0
25	8.1	8.0	8.2	8.1	8.0	7.9	8.1	7.6	8.3	8.0	8.1	7.9
26	8.0	7.9	8.2	8.1	8.0	7.7	8.1	7.8	8.2	7.8	8.1	7.9
27	8.1	7.9	8.3	8.1	7.8	7.7	8.0	7.7	8.3	7.8	8.3	8.0
28	8.1	7.9	8.3	8.0	7.8	7.7	8.0	7.7	8.2	7.9	8.4	8.1
29	8.1	7.8	8.3	7.9	7.8	7.7	7.9	7.8	8.2	7.9	8.4	8.0
30	8.2	7.8	8.4	7.9	7.9	7.8	7.9	7.7	8.2	7.9	8.3	7.9
31	---	---	8.5	8.1	---	---	8.0	7.7	8.2	7.9	---	---

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	3.6	3.7	2.7	7.5	6.6	---	---	10.7	10.4	8.8	8.4
2	3.8	2.7	3.6	3.0	8.1	7.4	12.2	11.8	13.6	10.5	9.5	8.6
3	3.9	2.9	3.6	2.9	9.3	7.8	11.9	11.1	11.7	10.6	9.5	9.1
4	4.8	3.0	4.3	3.3	9.3	8.0	11.5	11.1	10.8	10.1	9.1	8.5
5	5.3	3.7	4.4	3.6	10.4	8.2	11.3	10.4	10.3	10.1	8.9	8.4
6	5.5	3.4	3.6	2.4	10.4	9.5	10.7	10.1	10.4	9.5	8.7	8.1
7	6.6	4.0	3.6	2.3	10.6	9.7	10.4	10.2	10.1	9.7	8.7	7.8
8	6.7	3.7	3.9	3.1	10.8	10.0	10.8	9.6	10.0	9.2	8.5	7.8
9	5.7	3.5	4.8	3.7	11.4	10.5	10.2	9.7	10.8	9.9	9.2	8.0
10	5.5	3.1	5.2	4.7	10.6	9.8	10.1	9.6	11.1	10.5	9.7	8.5
11	4.8	2.9	6.0	5.1	10.2	9.4	10.6	9.7	10.7	9.8	10.1	9.0
12	4.2	2.4	5.9	5.3	9.9	9.0	---	---	10.6	10.0	10.1	9.4
13	3.6	2.1	5.5	5.1	9.9	8.7	---	---	10.9	10.3	9.9	9.1
14	4.5	2.3	5.5	4.9	9.1	8.7	---	---	10.7	10.3	9.5	8.6
15	4.2	2.4	7.1	4.4	10.1	9.1	9.8	9.4	10.4	9.9	9.6	8.4
16	3.9	2.2	6.4	3.9	10.2	9.3	9.8	9.2	10.4	10.1	9.8	8.6
17	3.3	2.1	7.7	5.9	9.3	9.0	10.0	9.2	11.0	10.1	9.5	8.5
18	3.1	2.6	7.0	6.5	9.4	8.9	10.9	9.2	10.5	9.9	8.9	7.3
19	3.9	2.6	7.4	6.6	9.4	9.0	11.2	10.2	10.1	9.8	7.9	6.7
20	4.1	3.1	7.6	7.1	9.9	8.8	11.1	10.8	10.0	9.8	6.9	5.8
21	5.8	3.6	7.6	7.2	10.1	9.6	11.0	10.5	10.0	9.5	7.4	6.1
22	6.3	5.0	7.5	6.7	10.1	9.8	10.6	9.9	9.5	9.2	9.1	7.0
23	5.4	3.9	6.9	6.3	10.8	10.1	10.0	9.0	9.6	9.3	9.5	7.3
24	5.4	4.1	6.7	6.2	11.6	10.7	10.0	9.5	10.1	9.5	9.1	7.7
25	5.3	3.9	7.0	6.3	11.7	11.0	10.9	10.0	10.2	9.6	9.4	8.0
26	5.4	4.2	6.9	7.5	11.7	11.0	11.2	10.6	10.0	8.6	10.6	9.2
27	5.7	4.9	6.6	6.2	11.1	10.2	11.2	10.5	8.9	8.4	11.1	10.6
28	5.6	5.2	6.9	6.3	10.8	10.2	10.6	9.4	9.0	8.5	11.1	10.5
29	5.3	4.6	6.6	6.3	11.6	10.6	11.0	9.0	---	---	10.7	10.1
30	5.4	3.0	7.1	6.5	11.8	11.6	11.0	9.1	---	---	11.5	10.6
31	4.1	3.4	---	---	11.8	11.5	---	---	---	---	12.0	11.4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.4	10.6	---	---	---	---	7.9	5.0	---	---	---	---
2	10.6	10.0	---	---	---	---	8.4	5.3	---	---	---	---
3	10.7	9.8	8.2	---	---	---	8.0	4.2	---	---	---	---
4	10.2	9.2	7.4	---	---	---	9.6	4.6	---	---	---	---
5	9.3	8.5	5.9	---	---	---	10.7	5.8	---	---	---	---
6	10.3	9.0	8.7	---	---	---	8.2	5.1	---	---	---	---
7	10.9	10.3	8.3	---	---	---	6.9	6.3	---	---	---	---
8	10.6	9.8	7.8	---	---	---	7.5	6.4	---	---	---	---
9	---	---	8.3	---	---	---	7.8	6.6	---	---	---	---
10	---	---	8.6	---	---	---	7.0	6.0	---	---	---	---
11	---	---	8.5	6.5	5.4	4.0	6.8	5.4	---	---	---	---
12	---	---	8.0	6.9	5.4	3.3	6.0	4.0	---	---	---	---
13	---	---	7.1	6.9	4.9	3.7	7.3	5.6	7.4	6.3	---	---
14	---	---	6.9	6.4	4.8	3.6	8.2	6.5	6.6	5.5	---	---
15	---	---	6.7	6.5	---	---	7.5	4.8	7.0	4.2	---	---
16	7.1	5.5	7.0	6.6	---	---	8.0	4.1	6.6	4.2	---	---
17	6.5	5.2	9.0	7.0	---	---	8.4	3.9	6.7	4.8	---	---
18	---	---	9.2	8.5	---	---	9.1	3.1	7.6	5.2	---	---
19	---	---	9.2	7.9	---	---	6.8	3.8	7.5	4.9	---	---
20	---	---	7.9	7.4	---	---	5.7	3.7	7.9	4.8	---	---
21	---	---	8.2	7.8	---	---	7.2	5.7	7.0	5.0	---	---
22	---	---	7.8	7.0	---	---	8.0	6.1	6.2	4.2	---	---
23	---	---	---	---	---	---	8.5	6.5	5.8	3.8	---	---
24	---	---	---	---	---	---	7.8	6.2	5.9	4.9	---	---
25	---	---	---	---	7.0	6.4	8.8	5.6	5.4	4.5	---	---
26	---	---	---	---	7.6	6.4	---	---	---	---	---	---
27	---	---	---	---	7.2	6.4	---	---	---	---	---	---
28	---	---	---	---	6.8	6.3	---	---	---	---	---	---
29	---	---	---	---	7.1	6.1	---	---	---	---	---	---
30	---	---	---	---	7.1	6.0	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

3-2716. GREAT MIAMI RIVER NEAR MIAMISBURG, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	25.0	24.0	20.0	17.0	13.0	9.0	9.0	6.0	8.0	7.0	9.0	8.0
2	26.0	25.0	21.0	20.0	10.0	9.0	12.0	6.0	7.0	5.0	9.0	7.0
3	26.0	24.0	20.0	18.0	13.0	10.0	10.0	7.0	10.0	5.0	10.0	7.0
4	24.0	21.0	18.0	17.0	13.0	10.0	9.0	7.0	8.0	6.0	11.0	9.0
5	22.0	20.0	18.0	17.0	9.0	7.0	13.0	5.0	9.0	6.0	11.0	9.0
6	22.0	20.0	19.0	18.0	7.0	6.0	11.0	7.0	15.0	7.0	11.0	10.0
7	21.0	20.0	20.0	18.0	7.0	5.0	10.0	8.0	12.0	10.0	11.0	10.0
8	26.0	19.0	18.0	15.0	7.0	5.0	14.0	7.0	14.0	10.0	12.0	9.0
9	23.0	21.0	16.0	14.0	8.0	6.0	12.0	8.0	12.0	9.0	12.0	9.0
10	24.0	22.0	15.0	13.0	9.0	7.0	12.0	8.0	11.0	8.0	9.0	8.0
11	24.0	23.0	15.0	12.0	9.0	7.0	12.0	8.0	12.0	8.0	8.0	6.0
12	25.0	23.0	13.0	12.0	9.0	7.0	11.0	7.0	11.0	9.0	9.0	6.0
13	27.0	24.0	15.0	12.0	10.0	8.0	13.0	6.0	9.0	8.0	11.0	6.0
14	26.0	25.0	15.0	13.0	9.0	7.0	13.0	9.0	9.0	7.0	11.0	8.0
15	27.0	25.0	18.0	14.0	8.0	5.0	13.0	7.0	12.0	7.0	11.0	8.0
16	28.0	26.0	18.0	14.0	9.0	6.0	9.0	8.0	9.0	7.0	12.0	8.0
17	28.0	27.0	15.0	13.0	9.0	6.0	11.0	9.0	10.0	7.0	14.0	9.0
18	27.0	26.0	15.0	13.0	11.0	7.0	15.0	7.0	10.0	7.0	17.0	12.0
19	26.0	24.0	13.0	10.0	11.0	8.0	9.0	4.0	9.0	7.0	19.0	14.0
20	25.0	23.0	10.0	8.0	11.0	9.0	10.0	6.0	9.0	7.0	19.0	16.0
21	25.0	23.0	9.0	8.0	10.0	8.0	9.0	7.0	9.0	7.0	17.0	14.0
22	23.0	21.0	11.0	8.0	10.0	8.0	9.0	7.0	9.0	8.0	16.0	13.0
23	23.0	21.0	12.0	10.0	8.0	6.0	17.0	9.0	10.0	8.0	16.0	13.0
24	23.0	19.0	14.0	12.0	9.0	5.0	13.0	10.0	8.0	7.0	16.0	13.0
25	20.0	19.0	12.0	10.0	9.0	5.0	10.0	8.0	8.0	7.0	15.0	12.0
26	20.0	18.0	12.0	10.0	9.0	5.0	9.0	6.0	8.0	7.0	12.0	10.0
27	19.0	18.0	13.0	12.0	11.0	8.0	12.0	6.0	9.0	7.0	11.0	10.0
28	18.0	16.0	16.0	13.0	11.0	8.0	13.0	8.0	9.0	7.0	12.0	10.0
29	17.0	15.0	13.0	11.0	9.0	7.0	14.0	4.0	---	---	14.0	11.0
30	18.0	16.0	12.0	10.0	9.0	7.0	17.0	5.0	---	---	12.0	9.0
31	18.0	17.0	---	---	8.0	7.0	9.0	5.0	---	---	9.0	5.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	7.0	18.0	16.0	27.0	25.0	29.0	28.0	29.0	25.0	30.0	28.0
2	11.0	9.0	20.0	17.0	26.0	24.0	29.0	27.0	29.0	26.0	28.0	27.0
3	11.0	9.0	22.0	19.0	24.0	21.0	28.0	27.0	28.0	25.0	28.0	26.0
4	14.0	11.0	24.0	20.0	23.0	21.0	29.0	27.0	28.0	25.0	28.0	25.0
5	16.0	14.0	25.0	21.0	24.0	22.0	29.0	27.0	29.0	25.0	28.0	26.0
6	16.0	12.0	26.0	23.0	26.0	22.0	29.0	26.0	29.0	26.0	29.0	27.0
7	12.0	10.0	26.0	24.0	27.0	24.0	27.0	26.0	29.0	27.0	---	---
8	11.0	10.0	26.0	23.0	28.0	25.0	26.0	24.0	29.0	27.0	---	---
9	12.0	11.0	24.0	19.0	26.0	24.0	26.0	25.0	29.0	26.0	25.0	24.0
10	15.0	12.0	19.0	15.0	27.0	23.0	27.0	26.0	26.0	22.0	25.0	23.0
11	14.0	13.0	15.0	14.0	28.0	25.0	29.0	27.0	23.0	21.0	24.0	21.0
12	14.0	13.0	15.0	13.0	29.0	26.0	28.0	27.0	24.0	22.0	23.0	22.0
13	15.0	14.0	16.0	15.0	28.0	27.0	29.0	28.0	25.0	24.0	24.0	22.0
14	16.0	15.0	18.0	16.0	29.0	27.0	29.0	27.0	26.0	25.0	24.0	22.0
15	16.0	15.0	20.0	18.0	27.0	22.0	30.0	27.0	27.0	26.0	24.0	22.0
16	18.0	16.0	23.0	20.0	22.0	20.0	31.0	29.0	28.0	27.0	25.0	23.0
17	20.0	17.0	24.0	22.0	22.0	20.0	32.0	30.0	27.0	26.0	26.0	25.0
18	21.0	17.0	24.0	20.0	23.0	22.0	33.0	30.0	28.0	26.0	25.0	22.0
19	17.0	10.0	20.0	18.0	23.0	22.0	32.0	31.0	29.0	27.0	---	---
20	10.0	8.0	19.0	18.0	26.0	23.0	31.0	25.0	29.0	27.0	22.0	21.0
21	12.0	9.0	19.0	17.0	26.0	24.0	26.0	25.0	28.0	26.0	22.0	20.0
22	12.0	11.0	19.0	17.0	25.0	24.0	26.0	25.0	28.0	25.0	23.0	20.0
23	12.0	11.0	20.0	17.0	25.0	22.0	26.0	25.0	29.0	25.0	25.0	23.0
24	13.0	11.0	20.0	18.0	24.0	22.0	27.0	25.0	29.0	25.0	26.0	19.0
25	15.0	13.0	21.0	19.0	24.0	22.0	27.0	26.0	29.0	26.0	25.0	22.0
26	17.0	15.0	21.0	20.0	26.0	23.0	29.0	27.0	30.0	27.0	24.0	22.0
27	19.0	16.0	23.0	21.0	28.0	25.0	28.0	27.0	30.0	26.0	24.0	22.0
28	19.0	18.0	24.0	22.0	28.0	27.0	27.0	26.0	30.0	26.0	23.0	22.0
29	18.0	16.0	26.0	23.0	29.0	28.0	26.0	26.0	29.0	26.0	---	---
30	17.0	16.0	27.0	25.0	29.0	28.0	27.0	25.0	29.0	26.0	23.0	21.0
31	---	---	27.0	25.0	---	---	29.0	25.0	29.0	27.0	---	---

3-2720.1. TWIN CREEK AT GERMANTOWN, OHIO

LOCATION.--Lat 39°37'22", long 84°23'33", Montgomery County, at bridge on State Highway 725, 1 mile downstream from gaging station, and approximately 0.1 mile west of Germantown.
DRAINAGE AREA.--275 sq mi (at gaging station).
PERIOD OF RECORD.--Chemical analyses: August 1967 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
01...	1645	25	--	50	30	--	--	--	--	320	0	55
08...	1600	32	--	40	20	--	--	--	--	320	2	55
16...	0945	25	--	70	40	--	--	--	--	326	0	55
22...	0900	25	--	50	40	--	--	--	--	338	0	54
30...	1900	26	--	20	10	--	--	--	--	336	0	56
NOV.												
20...	1405	202	8.1	20	20	86	34	7.3	2.1	308	0	62
DEC.												
18...	0950	130	7.4	160	60	91	34	8.6	1.4	346	0	61
JAN.												
14...	1715	90	7.8	90	0	97	36	9.4	1.9	368	0	62
FEB.												
11...	1700	514	7.6	130	10	73	29	6.0	1.5	272	0	50
MAR.												
11...	1630	104	2.6	100	60	74	32	8.4	1.5	286	6	57
APR.												
15...	1545	208	2.2	60	10	71	31	7.6	1.6	271	8	56
MAY												
20...	1630	950	8.8	280	40	71	26	5.2	2.3	220	0	52
JUNE												
17...	1015	344	9.2	130	10	76	29	5.5	2.4	224	0	46
JULY												
08...	1600	737	--	570	290	--	--	--	--	196	0	40
15...	1245	129	--	40	20	--	--	--	--	318	0	51
22...	1530	725	--	120	90	--	--	--	--	228	0	33
28...	1745	190	--	60	10	--	--	--	--	318	8	52
AUG.												
06...	0830	62	--	40	20	--	--	--	--	290	0	51
12...	1600	190	--	200	30	--	--	--	--	254	0	42
19...	1015	78	--	30	20	--	--	--	--	304	0	52
27...	1110	39	--	30	20	--	--	--	--	316	0	50
SEPT.												
03...	0800	33	--	70	50	--	--	--	--	300	0	54
09...	1645	26	--	30	10	--	--	--	--	326	0	52
16...	1530	22	--	30	10	--	--	--	--	316	0	52
23...	1615	23	--	60	0	--	--	--	--	308	0	54
29...	1715	21	--	50	0	--	--	--	--	312	0	50

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.								
01...	.00	.05	11.1	117	1	.04	6.0	0
08...	.00	.00	11.2	106	1	.03	6.0	0
16...	.07	.05	6.8	70	0	.16	6.0	0
22...	.00	.05	8.5	76	0	.04	3.5	2
30...	.00	.00	12.6	109	2	.02	2.5	0
NOV.								
20...	.07	.05	10.6	83	1	.05	3.5	0
DEC.								
18...	.15	.00	13.2	90	4	.04	1.6	0
JAN.								
14...	.00	.00	13.0	89	2	.04	2.4	0
FEB.								
11...	.07	.05	12.0	94	0	.06	40	0
MAR.								
11...	.00	.05	15.2	112	3	.04	3.8	0
APR.								
15...	.12	.05	11.0	108	0	.05	6.0	4
MAY								
20...	.36	.15	9.0	95	0	.08	70	2
JUNE								
17...	.23	.40	9.0	93	0	.11	75	0
JULY								
08...	.00	.10	9.0	103	0	.06	350	2
15...	.00	.05	9.0	106	0	.03	50	0
22...	.06	.00	8.6	99	1	.04	90	2
28...	.01	.05	7.8	92	0	.04	7.9	0
AUG.								
06...	.01	.05	7.8	87	0	.03	3.0	0
12...	.02	.05	--	--	2	.06	35	0
19...	.03	.00	7.2	85	0	.12	8.9	2
27...	.06	.05	8.6	93	0	.08	3.9	2
SEPT.								
03...	.04	.05	7.2	80	0	.05	10	4
09...	.02	.05	10.6	115	0	.04	6.0	2
16...	.02	.05	11.0	120	6	.05	6.0	0
23...	.04	.00	10.8	117	0	.04	6.0	2
29...	.01	.05	10.6	106	2	.04	--	0

3-2720.1. TWIN CREEK AT GERMANTOWN, OHIO--Continued

REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June. Records of discharge are given for 03-2720.00 Twin Creek near Germantown, Ohio.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHOPUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
01...	18	--	6.3	.06	366	--	329	66	619	8.2	18	--
08...	18	--	8.6	.10	372	--	332	66	621	8.3	13	--
15...	18	--	6.0	.06	380	--	333	66	624	8.0	17	--
22...	20	--	6.0	.05	372	--	344	66	637	8.1	11	--
30...	18	--	6.1	.09	386	--	342	66	633	8.2	9	--
NOV.												
20...	23	.3	20	.24	414	394	355	102	642	8.2	5	15
DEC.												
18...	20	.3	14	.18	424	408	367	84	684	8.2	0	4
JAN.												
14...	20	.3	14	.21	430	430	390	88	725	8.1	0	7
FEB.												
11...	16	.2	19	.20	364	337	301	78	584	8.1	5	5
MAR.												
11...	18	.3	9.7	.05	364	351	316	72	598	8.3	3	5
APP.												
15...	18	.3	8.7	.04	378	338	305	69	588	8.4	15	5
MAY												
20...	14	.3	39	.44	348	323	284	104	540	8.0	18	20
JUNE												
17...	20	.3	67	.36	412	366	309	125	603	8.2	17	10
JULY												
08...	12	--	23	.70	325	--	216	56	427	8.1	23	--
15...	20	--	18	.18	408	--	346	85	628	7.9	24	--
22...	12	--	14	.56	284	--	238	51	457	8.0	23	--
28...	17	--	14	.16	402	--	346	72	627	8.4	24	--
AUG.												
06...	17	--	7.9	.05	352	--	310	72	608	8.1	21	--
12...	13	--	11	.35	308	--	276	68	502	8.2	--	--
19...	18	--	5.5	.08	360	--	320	71	594	8.2	24	--
27...	18	--	7.5	.02	366	--	322	63	620	8.1	20	--
SEPT.												
03...	16	--	4.6	.05	346	--	320	74	590	8.0	21	--
09...	15	--	5.8	.31	354	--	324	57	628	8.2	20	--
16...	18	--	7.7	.14	358	--	328	69	624	8.0	20	--
23...	18	--	5.7	.04	362	--	325	72	612	8.1	20	--
29...	17	--	9.1	.13	356	--	324	68	617	8.2	16	--

3-2721. GREAT MIAMI RIVER AT MIDDLETOWN, OHIO

LOCATION.--Lat 39°32'31", long 84°21'27", Butler County, on left bank at County Park dock at Middletown, about 0.6 mile downstream from New York Central Railroad bridge, and 0.3 mile downstream from Twin Creek.
DRAINAGE AREA.--3,134 sq mi.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.												
01...	1730	--	120	90	--	--	--	--	328	0	92	50
08...	1700	--	170	60	--	--	--	--	310	0	92	46
16...	1130	--	120	60	--	--	--	--	326	0	94	52
23...	0900	--	170	60	--	--	--	--	322	0	100	50
31...	0830	--	120	70	--	--	--	--	328	0	103	56
NOV.												
20...	1300	8.3	280	30	82	28	17	3.7	264	0	81	30
DEC.												
18...	1150	8.3	220	70	90	32	28	3.0	324	0	92	38
JAN.												
15...	1045	9.2	310	60	97	35	30	2.9	356	0	100	42
FEB.												
11...	1545	6.8	180	40	68	29	13	2.4	252	0	65	22
MAR.												
11...	1715	4.4	180	60	88	33	26	2.8	324	0	89	38
APR.												
15...	1630	5.7	70	40	76	33	19	2.6	294	0	82	30
MAY												
21...	1000	8.2	420	30	56	21	6.0	3.0	170	0	48	18
JUNE												
17...	0930	7.4	110	40	73	29	16	2.8	246	0	60	26
JULY												
08...	1730	--	140	80	--	--	--	--	274	0	63	24
15...	1120	--	110	70	--	--	--	--	320	0	76	32
23...	0820	--	100	100	--	--	--	--	258	0	54	22
29...	0945	--	100	40	--	--	--	--	302	0	74	31
AUG.												
06...	0935	--	100	60	--	--	--	--	328	0	87	39
13...	0930	--	170	100	--	--	--	--	246	0	54	22
19...	1100	--	200	60	--	--	--	--	316	0	78	32
27...	1135	--	90	50	--	--	--	--	326	0	88	44
SEPT.												
03...	0910	--	100	60	--	--	--	--	334	0	93	48
10...	0845	--	80	50	--	--	--	--	322	0	89	48
16...	1615	--	100	40	--	--	--	--	324	0	89	50
24...	0845	--	80	10	--	--	--	--	306	0	90	48
30...	1300	--	140	10	--	--	--	--	318	0	93	53

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.								
01...	.89	.20	2.4	29	12	.12	25	8
08...	1.6	.10	4.6	51	1	.11	35	4
16...	1.2	.20	1.6	19	1	.08	25	4
23...	1.8	.10	2.2	24	1	.13	35	4
31...	1.8	.15	3.0	31	3	.13	7.0	4
NOV.								
20...	.81	.10	9.2	77	2	.09	40	8
DEC.								
18...	1.3	.05	9.4	75	20	.27	20	8
JAN.								
15...	1.7	.05	9.6	77	16	.13	30	8
FEB.								
11...	.44	.05	12.0	96	0	.11	60	4
MAR.								
11...	1.3	.10	9.8	82	1	.11	30	4
APR.								
15...	.70	.10	7.4	78	5	.15	8.0	4
MAY								
21...	.43	.10	8.8	93	0	.06	180	4
JUNE								
17...	.40	.35	6.8	74	0	.14	70	8
JULY								
08...	.08	.25	7.2	85	0	.05	200	4
15...	.04	.10	5.0	63	1	.05	45	4
23...	.32	.05	6.4	75	1	.10	90	4
29...	.12	.10	4.8	56	0	.11	35	4
AUG.								
06...	.20	.15	3.6	46	2	.15	29	4
13...	.33	.10	6.8	77	4	.06	50	8
19...	.09	.05	4.5	57	1	.14	50	8
27...	.58	.10	3.6	46	1	.14	15	4
SEPT.								
03...	1.3	.50	3.2	41	3	.12	17	4
10...	.86	1.0	.8	10	1	.10	8.5	2
16...	.73	.70	4.4	54	7	.12	8.0	4
24...	.58	.00	1.6	20	2	.12	10	4
30...	.18	.80	3.4	39	3	.14	20	4

3-2721. GREAT MIAMI RIVER AT MIDDLETOWN, OHIO--Continued

PERIOD OF RECORD.--Chemical analyses: July 1963 to September 1969.
REMARKS.--Samples were collected weekly October, July to September, and monthly November to June. Samples for iron and manganese were filtered clear when collected. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	COLOR (PLATI-NUM-COBALT UNITS)
OCT.											
01...	--	6.6	4.0	498	--	350	80	808	7.8	26	--
08...	--	6.5	4.3	478	--	342	88	782	7.6	21	--
16...	--	8.1	4.6	502	--	356	88	809	7.8	25	--
23...	--	6.0	4.4	494	--	356	92	820	7.6	20	--
31...	--	8.4	6.2	532	--	370	101	848	7.6	17	--
NOV.											
20...	.5	15	1.8	444	398	320	103	659	7.6	8	30
DEC.											
18...	.5	10	2.8	492	465	356	90	779	7.9	6	15
JAN.											
15...	.5	11	3.6	518	508	386	94	840	7.7	6	10
FEB.											
11...	.2	13	1.3	366	345	289	82	599	7.9	6	10
MAR.											
11...	.4	10	2.2	484	454	355	90	766	8.0	8	15
APR.											
15...	.4	8.2	.90	438	402	325	84	690	8.1	18	10
MAY											
21...	.2	25	.57	266	271	226	86	433	7.7	18	30
JUNE											
17...	.4	28	1.6	424	366	301	100	618	8.2	20	10
JULY											
08...	--	14	1.3	391	--	315	90	603	7.9	24	--
15...	--	14	1.9	446	--	365	103	720	7.8	28	--
23...	--	14	1.1	360	--	276	64	578	7.8	24	--
29...	--	12	1.4	418	--	338	90	680	7.9	24	--
AUG.											
06...	--	16	3.5	484	--	362	92	778	8.1	29	--
13...	--	11	1.5	320	--	264	62	534	7.9	22	--
19...	--	9.5	1.6	452	--	344	84	718	8.0	28	--
27...	--	7.6	3.7	482	--	346	78	800	8.0	28	--
SEPT.											
03...	--	6.9	3.0	452	--	342	68	783	7.9	29	--
10...	--	8.8	4.0	478	--	343	78	816	7.8	25	--
16...	--	11	4.6	484	--	350	84	819	7.8	26	--
24...	--	11	4.1	488	--	342	90	796	7.6	26	--
30...	--	9.4	3.6	494	--	352	91	833	7.7	22	--

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT.								
01...	10	10	20	20	40	0	0	0
08...	10	20	10	--	20	0	10	0
16...	10	30	20	--	20	10	10	0
23...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
NOV.								
20...	10	20	20	20	160	0	10	0
DEC.								
18...	--	--	--	--	--	--	--	--
JAN.								
15...	30	20	30	20	40	0	0	0
FEB.								
11...	--	--	--	--	--	--	--	--
MAR.								
11...	50	60	30	0	40	0	0	0
APR.								
15...	--	--	--	--	--	--	--	--
MAY								
21...	0	10	10	10	20	0	10	0
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	10	0	20	20	10	0	10	0
15...	--	--	--	--	--	--	--	--
23...	10	10	10	0	10	0	0	0
29...	--	--	--	--	--	--	--	--
AUG.								
06...	10	20	10	10	20	0	0	0
13...	10	10	10	20	20	0	0	0
19...	20	40	10	30	20	0	0	0
27...	20	20	20	10	20	0	0	0
SEPT.								
03...	10	0	20	10	40	0	0	0
10...	10	40	10	0	10	0	10	0
16...	10	30	10	10	20	0	0	0
24...	20	60	10	10	20	0	10	0
30...	10	30	10	20	20	0	0	0

3-2724. GREAT MIAMI RIVER NEAR MIDDLETOWN, OHIO

LOCATION.--Lat 39°25'45", long 84°28'05", Butler County, at bridge on Liberty-Fairfield Road, southwest of Middletown, 0.7 mile upstream from Baltimore and Ohio Railroad bridge.
DRAINAGE AREA.--3,280 sq mi.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)
OCT.												
02...	1000	--	430	230	--	--	--	--	248	0	162	54
09...	0900	--	670	200	--	--	--	--	232	0	158	50
16...	1230	--	750	220	--	--	--	--	228	0	180	52
23...	1000	--	800	270	--	--	--	--	258	0	164	58
31...	0930	--	2400	190	--	--	--	--	230	0	188	55
NOV.												
20...	1100	8.0	3200	50	79	30	15	3.7	236	0	99	30
DEC.												
18...	1250	7.3	4000	90	90	34	26	2.8	284	0	122	38
JAN.												
15...	1130	8.4	420	150	97	36	26	2.8	314	0	126	38
FEB.												
12...	0930	7.0	370	80	74	29	13	2.3	258	0	74	24
MAR.												
12...	1020	4.3	1500	80	85	34	25	2.9	294	0	108	38
APR.												
16...	1045	4.0	550	30	73	33	18	2.6	270	0	90	30
MAY												
21...	1100	7.1	370	40	59	18	6.0	3.0	168	0	47	20
JUNE												
17...	0830	6.4	290	40	73	29	15	2.8	258	0	64	25
JULY												
08...	2030	--	200	80	--	--	--	--	254	0	68	24
15...	1015	--	650	60	--	--	--	--	288	0	84	31
23...	0920	--	360	150	--	--	--	--	240	0	56	19
29...	1045	--	150	20	--	--	--	--	302	0	77	27
AUG.												
06...	1030	--	200	30	--	--	--	--	310	0	94	42
13...	1020	--	400	50	--	--	--	--	232	0	53	17
19...	1200	--	100	20	--	--	--	--	310	0	78	34
27...	1230	--	90	70	--	--	--	--	316	0	90	42
SEPT.												
03...	1000	--	230	120	--	--	--	--	314	0	94	42
10...	0945	--	470	80	--	--	--	--	305	0	102	48
17...	1015	--	370	60	--	--	--	--	304	0	101	50
24...	0945	--	600	70	--	--	--	--	280	0	114	50
29...	1400	--	840	60	--	--	--	--	282	0	123	53

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TURBIDITY (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.								
02...	.96	.10	2.6	30	5	.14	35	8
09...	2.2	.10	3.0	32	3	.11	50	4
16...	1.6	.15	2.6	31	2	.12	25	4
23...	2.5	.15	2.7	28	1	.14	30	8
31...	1.7	.15	3.2	31	15	.19	45	0
NOV.								
20...	.81	.10	9.2	77	6	.10	70	4
DEC.								
18...	1.5	.05	9.4	73	12	.22	56	8
JAN.								
15...	1.8	.05	10.4	81	10	.10	50	8
FEB.								
12...	.59	.05	11.6	91	4	.11	70	8
MAR.								
12...	1.5	.05	9.4	77	6	.11	60	4
APR.								
16...	.46	.05	7.4	78	3	.16	30	4
MAY								
21...	.36	.10	8.8	93	0	.07	140	4
JUNE								
17...	.30	.45	6.6	72	0	.09	100	8
JULY								
08...	.25	.15	6.8	80	0	.08	300	4
15...	.00	.05	5.6	69	0	.04	50	4
23...	.22	.05	7.0	82	2	.04	90	4
29...	.08	.10	6.0	70	0	.07	35	4
AUG.								
06...	.02	.05	5.2	64	0	.09	32	4
13...	.33	.10	6.6	75	2	.09	80	4
19...	.04	.05	6.2	78	0	.24	50	4
27...	.24	.05	4.0	49	0	.12	23	4
SEPT.								
03...	1.5	.50	4.0	48	4	.12	20	4
10...	1.0	1.0	3.0	35	0	.11	17	4
17...	.10	.60	2.4	28	2	.16	20	4
24...	.77	.00	2.4	28	1	.13	20	4
29...	.64	.50	4.8	53	3	.13	55	4

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3-2724. GREAT MIAMI RIVER NEAR MIDDLETOWN, OHIO--Continued

PERIOD OF RECORD.--Chemical analyses: July 1963 to September 1969.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.											
02...	--	7.8	.14	538	--	360	157	837	7.2	23	--
09...	--	7.5	.22	494	--	346	156	804	7.2	18	--
16...	--	7.4	.07	548	--	364	177	844	7.1	25	--
23...	--	3.4	.30	536	--	356	144	860	7.2	18	--
31...	--	8.2	.16	550	--	366	177	868	7.0	15	--
NOV.											
20...	.4	17	.41	438	399	321	127	648	7.5	8	50
DEC.											
18...	.4	12	.06	486	474	365	132	785	7.4	5	10
JAN.											
15...	.4	13	.16	506	504	390	133	831	7.6	5	17
FEB.											
12...	.3	17	.28	388	368	304	92	628	7.8	5	5
MAR.											
12...	.4	10	.13	452	453	352	111	763	7.5	7	10
APR.											
16...	.4	10	.06	430	394	318	96	678	7.7	18	7
MAY											
21...	.8	23	.44	274	268	221	84	436	7.7	18	30
JUNE											
17...	.3	23	.98	424	368	301	90	617	8.0	20	10
JULY											
08...	--	15	.93	370	--	310	102	590	7.8	24	--
15...	--	15	.35	438	--	360	124	692	7.7	27	--
23...	--	16	.52	350	--	264	67	554	7.8	24	--
29...	--	9.0	1.1	419	--	336	88	684	8.0	24	--
AUG.											
06...	--	9.1	1.0	460	--	364	110	759	8.0	27	--
13...	--	9.4	1.0	310	--	262	72	515	7.9	22	--
19...	--	8.7	1.3	428	--	340	86	713	8.1	28	--
27...	--	7.0	1.6	452	--	350	90	770	8.0	27	--
SEPT.											
03...	--	2.8	2.0	472	--	344	86	776	7.9	25	--
10...	--	3.7	1.4	468	--	344	94	821	7.7	24	--
17...	--	7.5	.45	498	--	344	94	819	7.6	24	--
24...	--	6.3	.76	480	--	336	106	796	7.4	23	--
29...	--	8.5	.44	488	--	360	129	841	7.4	21	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
02...	--	--	--	--	--	--	--	--
09...	0	20	10	--	30	0	10	0
16...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
NOV.								
20...	--	--	--	--	--	--	--	--
DEC.								
18...	--	--	--	--	--	--	--	--
JAN.								
15...	--	--	--	--	--	--	--	--
FEB.								
12...	--	--	--	--	--	--	--	--
MAR.								
12...	--	--	--	--	--	--	--	--
APR.								
16...	--	--	--	--	--	--	--	--
MAY								
21...	--	--	--	--	--	--	--	--
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
AUG.								
06...	0	0	0	10	0	0	0	0
13...	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--
SEPT.								
03...	--	--	--	--	--	--	--	--
10...	0	30	10	0	40	0	10	0
17...	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--

3-2740. GREAT MIAMI RIVER AT HAMILTON, OHIO

LOCATION.--Lat 39°23'28", long 84°34'20", in NE 1/4 sec.6, T.1 N., R.3 E., Butler County, temperature recorder at gaging station on right bank, 1,000 ft downstream from Columbia Bridge at Hamilton, and 3 miles downstream from Four Mile Creek.
DRAINAGE AREA.--3,630 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1951.
Water temperatures: October 1950 to September 1951, October 1957 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 31°C July 18-20; minimum, 2°C Dec. 25-27, Jan. 1-4.
EXTREMES, 1950-51, 1957-69.--Water temperatures: Maximum, 34°C Aug. 16, 1965; minimum, freezing point on several days during December 1950, January and February 1951.
REMARKS.--Some regulation at low flow by industrial plants above station.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER																																
MAXIMUM	23	23	22	21	19	19	17	18	18	18	19	19	21	22	23	24	24	24	24	22	22	21	20	19	18	17	16	16	14	14	14	20
MINIMUM	23	22	21	19	18	17	17	17	18	18	18	19	19	21	22	23	24	24	22	22	21	20	19	18	17	16	16	14	14	13	13	19
NOVEMBER																																
MAXIMUM	16	17	17	17	17	17	17	16	14	14	13	12	11	11	12	12	12	12	11	9	8	8	10	11	11	10	10	11	11	10	--	13
MINIMUM	14	16	17	17	17	17	16	14	14	13	12	11	11	11	11	12	12	11	9	8	8	8	8	10	10	10	10	10	10	9	--	12
DECEMBER																																
MAXIMUM	9	8	9	9	8	7	7	6	6	5	5	6	7	7	7	6	5	6	6	6	6	6	6	4	3	2	3	4	4	3	3	6
MINIMUM	8	8	8	8	7	7	6	6	5	5	5	5	6	7	6	5	5	4	6	6	6	5	4	3	2	2	2	3	3	3	3	5
JANUARY																																
MAXIMUM	3	2	2	3	3	3	3	3	3	4	4	4	4	4	5	7	7	4	4	4	4	6	7	8	8	7	6	6	6	7	7	5
MINIMUM	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	5	4	4	4	4	4	4	6	7	6	6	6	6	6	6	7	4
FEBRUARY																																
MAXIMUM	7	7	7	7	6	6	6	6	6	5	5	5	5	4	4	4	4	6	6	6	7	7	7	7	7	7	7	7	--	--	--	6
MINIMUM	7	7	7	6	6	6	6	6	6	4	4	5	4	4	4	4	4	4	6	6	6	7	7	7	7	7	7	7	--	--	--	6
MARCH																																
MAXIMUM	7	7	7	7	8	8	8	8	8	8	7	7	7	7	7	8	9	9	11	12	12	12	11	11	11	9	8	8	8	8	7	9
MINIMUM	7	7	7	7	7	8	7	8	8	7	7	6	6	7	7	7	8	9	9	11	12	11	11	11	9	8	8	8	8	7	6	8
APRIL																																
MAXIMUM	6	8	9	10	11	11	11	11	11	12	13	13	13	13	14	16	17	17	17	13	11	11	11	12	13	14	16	16	16	16	--	13
MINIMUM	6	6	8	9	10	11	10	10	11	11	12	13	13	13	13	14	16	17	13	11	11	11	11	11	12	13	14	16	16	15	--	12
MAY																																
MAXIMUM	16	17	19	20	21	21	22	22	22	20	17	16	15	16	18	20	21	21	20	18	18	18	18	18	19	19	21	22	23	24	24	20
MINIMUM	15	16	17	19	20	21	21	22	20	17	16	15	15	15	16	18	20	20	18	18	18	18	18	18	18	19	19	21	22	23	24	19
JUNE																																
MAXIMUM	26	26	24	23	23	24	24	26	26	26	26	26	27	27	27	24	22	22	22	23	24	24	24	22	22	24	26	27	27	28	--	25
MINIMUM	24	24	22	22	22	23	24	24	26	24	25	26	26	27	24	22	22	22	22	22	23	24	22	22	22	22	24	26	27	27	--	24
JULY																																
MAXIMUM	28	28	28	29	29	29	28	27	26	26	27	28	28	29	29	29	30	31	31	31	28	25	25	25	26	26	26	26	26	26	26	28
MINIMUM	28	28	28	28	28	28	27	26	26	26	26	27	27	27	28	28	29	30	31	28	25	25	24	24	24	26	26	26	25	24	25	27
AUGUST																																
MAXIMUM	26	27	27	27	27	27	27	28	28	26	23	22	23	24	26	26	26	27	27	27	27	27	27	27	27	28	28	28	28	29	29	27
MINIMUM	25	26	27	27	27	26	27	27	26	23	21	21	22	23	24	26	26	26	27	27	27	27	27	27	27	27	28	28	28	28	28	26
SEPTEMBER																																
MAXIMUM	29	29	28	28	27	28	28	28	28	26	26	24	24	24	24	24	24	24	24	23	23	22	23	23	23	23	22	22	22	21	21	25
MINIMUM	29	28	27	27	27	27	27	28	26	26	24	24	24	24	24	24	24	23	23	22	22	22	23	23	22	22	22	21	21	20	--	24

MAXIMUM VALUE = 31 MINIMUM VALUE = 2

3-2740.5. GREAT MIAMI RIVER NEAR HAMILTON, OHIO

LOCATION.--Lat 39°20'00", long 84°36'42", Butler County, at American Materials Company private bridge near Hamilton, about 5.5 miles below gaging station.
DRAINAGE AREA.--3,667 sq mi.
PERIOD OF RECORD.--Chemical analyses: July 1963 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	SILICA (SIO2) (MG/L)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	CAL-CIUM (CA) (MG/L)	MAG-NE-SIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)
OCT.												
02...	1130	678	--	240	250	--	--	--	--	262	0	151
09...	1030	725	--	640	180	--	--	--	--	246	0	142
16...	1345	664	--	210	190	--	--	--	--	260	0	152
23...	1100	596	--	360	1900	--	--	--	--	268	0	152
31...	1030	603	--	720	170	--	--	--	--	272	0	156
NOV.												
20...	0930	3030	7.8	360	110	77	27	15	3.8	234	0	88
DEC.												
18...	1405	1730	7.2	1100	120	90	34	24	2.8	294	0	118
JAN.												
15...	1245	1520	8.4	620	90	98	36	26	2.8	334	0	116
FEB.												
12...	1030	6360	8.0	240	70	74	27	12	2.4	250	0	70
MAR.												
12...	1115	1850	4.2	1400	100	87	33	24	2.9	288	0	112
APR.												
16...	1230	3110	4.4	400	20	79	31	19	2.7	270	0	96
MAY												
21...	1315	17600	7.2	430	40	56	20	6.5	3.0	168	0	47
JUNE												
17...	0745	5020	5.4	160	30	68	27	15	3.1	234	0	67
JULY												
08...	1930	5160	--	1200	110	--	--	--	--	250	0	70
15...	0900	2150	--	120	60	--	--	--	--	266	0	83
23...	1030	5780	--	230	40	--	--	--	--	232	0	54
29...	1200	2520	--	110	30	--	--	--	--	282	0	76
AUG.												
06...	1130	1150	--	80	20	--	--	--	--	312	0	87
13...	1130	4280	--	350	30	--	--	--	--	220	0	52
19...	1315	1950	--	110	20	--	--	--	--	280	0	87
27...	1335	1020	--	190	60	--	--	--	--	306	0	102
SEPT.												
03...	1050	1510	--	900	230	--	--	--	--	154	0	54
10...	1045	844	--	300	90	--	--	--	--	304	0	103
17...	1115	853	--	340	80	--	--	--	--	304	0	108
24...	1030	934	--	300	50	--	--	--	--	276	0	99
29...	1500	735	--	430	30	--	--	--	--	296	0	112

DATE	AMMONIA (NH4) (MG/L)	NITRITE (NO2) (MG/L)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TUR-BID-ITY (MG/L)	ODOR (THRES-HOLD NUMBER)
OCT.								
02...	1.8	.25	2.9	37	11	.14	30	8
09...	2.5	.10	3.8	40	3	.13	40	4
16...	1.5	.20	3.2	38	2	.12	13	4
23...	2.5	.20	3.2	32	2	.14	20	4
31...	2.4	.15	3.6	35	14	.19	20	4
NOV.								
20...	.96	.10	9.6	81	5	.09	60	8
DEC.								
18...	1.8	.05	10.0	78	12	.15	50	8
JAN.								
15...	2.4	.05	10.6	83	0	.16	45	4
FEB.								
12...	.37	.05	11.9	93	0	.12	80	4
MAR.								
12...	1.5	.10	9.6	81	6	.10	40	4
APR.								
16...	.68	.10	9.0	96	4	.14	40	4
MAY								
21...	.23	.10	8.8	94	0	.08	220	4
JUNE								
17...	.31	.45	6.6	72	0	.09	100	4
JULY								
08...	.31	.10	7.0	83	0	.06	240	4
15...	.14	.05	6.0	74	0	.04	50	8
23...	.24	.05	7.2	85	1	.04	125	4
29...	.12	.10	6.8	83	3	.12	35	4
AUG.								
06...	.12	.05	6.2	76	0	.10	26	4
13...	.32	.15	7.4	85	2	.07	100	8
19...	.22	.05	7.6	96	0	.11	50	4
27...	.54	.10	4.0	51	2	.12	23	4
SEPT.								
03...	1.0	.10	5.6	66	1	.11	4.0	4
10...	1.2	1.0	3.2	38	0	.12	20	4
17...	.14	.60	2.2	26	6	.16	20	8
24...	.67	.00	3.0	34	0	.12	100	4
29...	1.7	.80	5.4	61	3	.13	25	4

3-2740.5. GREAT MIAMI RIVER NEAR HAMILTON, OHIO--Continued

REMARKS.--Samples for iron and manganese were filtered clear when collected. Samples were collected weekly October, July to September, and monthly November to June. Records of discharge are given for 03-2740.00 Great Miami River at Hamilton, Ohio (drainage area 3,630 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
02...	50	--	7.3	.47	522	--	368	153	833	7.4	28	--
09...	50	--	7.5	.52	482	--	342	140	800	7.3	18	--
16...	52	--	8.1	.49	554	--	358	145	836	7.5	24	--
23...	56	--	6.6	.80	542	--	370	150	860	7.4	16	--
31...	57	--	7.7	.64	558	--	372	149	868	7.4	14	--
NOV.												
20...	28	.4	17	.52	424	380	303	111	628	7.5	8	30
DEC.												
18...	36	.3	11	.19	488	469	365	124	774	7.6	5	5
JAN.												
15...	40	.4	13	.20	506	507	393	119	835	7.6	5	20
FEB.												
12...	24	.3	15	.30	382	356	296	90	611	7.8	5	5
MAR.												
12...	36	.3	10	.14	454	453	353	117	757	7.7	8	10
APR.												
16...	30	.4	11	.13	432	407	325	104	689	7.8	19	5
MAY												
21...	18	.8	23	.40	284	262	222	84	438	7.7	19	30
JUNE												
17...	25	.3	17	.46	404	344	281	88	586	7.8	20	10
JULY												
08...	25	--	17	1.0	370	--	298	93	584	8.0	25	--
15...	30	--	14	.74	408	--	340	122	650	7.8	27	--
23...	19	--	15	.68	342	--	262	72	533	7.8	24	--
29...	27	--	10	.92	419	--	326	94	659	8.0	26	--
AUG.												
06...	40	--	7.7	1.4	468	--	358	102	775	8.0	27	--
13...	15	--	10	1.2	290	--	254	74	496	7.8	23	--
19...	32	--	8.6	.88	428	--	334	104	693	7.9	28	--
27...	42	--	7.7	1.4	464	--	346	94	784	7.8	28	--
SEPT.												
03...	24	--	4.6	1.2	258	--	186	60	430	7.6	24	--
10...	50	--	7.8	1.3	512	--	342	92	826	7.7	24	--
17...	52	--	6.9	.17	496	--	346	96	836	7.6	25	--
24...	46	--	8.6	1.4	456	--	318	92	748	7.7	23	--
29...	55	--	8.3	1.1	500	--	348	105	841	7.6	22	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
02...	10	10	10	20	30	0	0	0
09...	0	20	10	--	20	0	10	0
16...	10	20	20	0	30	10	0	0
23...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
NOV.								
20...	10	20	20	20	30	0	10	0
DEC.								
18...	--	--	--	--	--	--	--	--
JAN.								
15...	0	20	10	10	40	0	0	0
FEB.								
12...	--	--	--	--	--	--	--	--
MAR.								
12...	10	20	10	0	30	0	0	0
APR.								
16...	--	--	--	--	--	--	--	--
MAY								
21...	0	20	20	30	10	0	10	0
JUNE								
17...	--	--	--	--	--	--	--	--
JULY								
08...	20	10	10	20	10	0	0	0
15...	--	--	--	--	--	--	--	--
23...	0	10	20	10	20	0	0	0
29...	--	--	--	--	--	--	--	--
AUG.								
06...	10	20	10	10	10	0	0	0
13...	10	10	10	20	10	0	0	0
19...	10	20	10	30	20	0	0	0
27...	0	10	10	20	30	0	10	0
SEPT.								
03...	10	10	10	20	20	0	10	20
10...	10	30	10	0	20	0	0	0
17...	0	30	10	10	20	0	10	0
24...	10	30	10	10	10	0	0	0
29...	10	20	10	20	30	0	10	0

3-2746. GREAT MIAMI RIVER AT NEW BALTIMORE, OHIO

LOCATION.--Lat 39°15'47", long 84°40'00", Hamilton County, at Blue Rock Road bridge at New Baltimore, about 6.5 miles downstream from Indian Creek, and 14 miles downstream from gaging station at Hamilton, Butler County.
DRAINAGE AREA.--3,814 sq mi.
PERIOD OF RECORD.--Chemical analyses: July 1966 to September 1969.
Water temperatures: July 1966 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,150 micromhos Feb. 23; minimum, 300 micromhos Aug. 11.
Water temperatures: Maximum, 33°C July 18; minimum, freezing point Jan. 5.
EXTREMES, 1966-69.--Specific conductance (1967-69): Maximum, 1,150 micromhos Feb. 23, 1969; minimum, 230 micromhos May 24, 1968.
Dissolved oxygen (1967-68): Maximum, 12.4 mg/l Dec. 20, 1967; minimum, 1.9 mg/l July 20, Sept. 25, 1968.
Water temperatures: Maximum, 33°C July 18, 1969; minimum, freezing point Jan. 5, 1969.
REMARKS.--Continuous water quality recorder operated since July 1966. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 03-2740.00 Great Miami River at Hamilton, Ohio (drainage area 3,630 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
09...	1125	725	220	12	134	50	.7	5.8	502	336	136	803
21...	0915	572	248	0	162	55	.6	17	574	375	172	892
NOV.												
04...	--	572	306	0	119	54	.6	5.8	516	356	105	858
18...	0930	5030	216	12	71	30	.3	5.6	358	272	74	590
DEC.												
16...	0900	1790	284	0	90	34	.4	17	496	365	116	748
30...	--	14300	168	0	45	14	.2	18	292	205	68	430
JAN.												
13...	--	1660	304	0	107	47	.4	17	488	372	123	829
20...	0830	16100	128	0	36	14	.2	13	220	150	45	352
FEB.												
09...	0830	15700	193	0	47	15	.3	11	284	224	66	440
20...	1130	3030	274	0	100	32	.4	20	492	348	123	743
MAR.												
17...	0815	1520	281	0	116	38	.5	12	472	354	124	772
28...	0800	3850	260	0	88	30	.5	11	416	322	109	673
APR.												
07...	--	13100	179	0	49	14	.4	10	266	212	66	435
14...	0830	2840	273	0	79	26	.4	15	410	330	106	665
MAY												
05...	1635	1850	274	6	92	34	.4	17	430	344	109	720
21...	1430	17300	180	0	48	13	.4	29	308	223	75	457
JUNE												
13...	--	2120	286	0	101	38	.5	8.1	468	352	117	738
24...	1040	15800	162	0	39	14	.4	23	254	196	63	401
JULY												
07...	0800	5080	262	14	77	33	.5	16	452	353	114	704
25...	0800	3470	244	0	64	23	.4	18	422	292	92	598
AUG.												
12...	0900	8130	158	0	32	10	.3	11	192	172	42	363
29...	0830	1010	298	0	104	46	.6	14	462	348	104	818
SEPT.												
05...	0930	1120	238	0	83	40	.5	14	410	282	86	688
17...	1210	862	274	0	124	55	.7	19	476	346	121	855

3-2746. GREAT MIAMI RIVER AT NEW BALTIMORE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	830	810	910	880	610	560	---	---	---	---	720	710
2	840	820	900	880	590	560	---	---	---	---	720	710
3	840	800	880	870	660	590	---	---	---	---	730	720
4	800	770	870	860	660	540	---	---	---	---	730	720
5	810	780	880	860	580	540	---	---	---	---	740	720
6	810	770	900	800	590	570	---	---	---	---	740	740
7	800	760	900	650	610	580	---	---	---	---	740	730
8	760	740	860	830	630	610	---	---	---	---	810	740
9	800	760	840	830	640	630	---	---	---	---	750	750
10	830	800	860	840	660	640	---	---	---	---	750	740
11	800	790	850	780	710	660	---	---	---	---	740	730
12	810	790	780	760	760	700	---	---	---	---	750	740
13	810	800	820	780	800	720	---	---	---	---	750	740
14	810	780	820	800	750	730	---	---	---	---	750	740
15	810	780	840	740	760	740	---	---	---	---	760	750
16	840	810	840	610	750	740	---	---	---	---	760	750
17	870	840	660	550	760	740	---	---	---	---	770	760
18	850	840	670	540	780	740	---	---	---	---	780	750
19	880	840	680	610	750	720	---	---	---	---	770	690
20	880	830	650	610	740	690	---	---	740	720	760	720
21	900	880	690	650	690	640	---	---	720	720	760	740
22	900	870	710	690	780	670	---	---	720	710	770	750
23	900	870	730	710	670	590	---	---	1150	710	760	750
24	890	730	720	710	660	590	---	---	720	680	760	730
25	880	860	710	690	---	---	---	---	720	680	750	710
26	890	870	690	660	---	---	---	---	720	700	750	670
27	880	870	670	640	---	---	---	---	720	700	720	690
28	880	860	640	500	---	---	---	---	740	710	690	660
29	900	870	540	500	---	---	---	---	---	---	760	640
30	890	870	620	520	---	---	---	---	---	---	---	---
31	900	870	---	---	---	---	---	---	---	---	620	610

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	630	600	710	690	690	660	710	690	700	670	830	730
2	650	630	720	710	700	670	720	710	700	680	810	770
3	680	650	750	720	680	670	730	700	720	700	790	430
4	680	660	790	720	680	670	720	700	740	720	---	---
5	680	660	760	700	690	670	730	690	750	730	730	670
6	720	600	720	680	710	690	690	660	750	730	720	680
7	600	400	700	690	730	710	700	520	770	750	730	680
8	510	430	700	670	730	720	600	490	780	750	730	---
9	560	510	690	660	750	720	610	590	760	650	---	---
10	580	560	750	600	750	740	650	610	720	340	---	---
11	620	580	620	560	750	750	700	650	420	300	---	---
12	640	620	650	610	750	740	700	650	430	330	---	---
13	650	640	630	620	750	740	710	620	540	430	---	---
14	660	640	650	630	750	720	630	620	650	540	---	---
15	660	640	670	650	720	540	700	630	750	650	860	840
16	680	660	680	660	650	590	740	700	---	---	850	830
17	680	670	700	680	600	550	750	720	---	---	850	820
18	680	580	700	560	640	600	770	750	720	690	820	740
19	620	560	590	500	670	640	770	740	700	690	800	750
20	650	460	530	400	700	670	760	660	720	690	---	---
21	550	450	470	410	720	700	---	---	780	720	---	---
22	600	530	540	470	720	710	---	---	800	780	---	---
23	610	570	580	540	710	380	550	510	---	---	---	---
24	640	610	630	580	450	380	590	550	730	720	---	---
25	660	630	730	610	490	390	650	590	740	730	---	---
26	660	650	610	600	500	420	---	---	750	750	---	---
27	670	660	630	610	580	500	640	620	750	750	---	---
28	670	650	650	630	630	580	660	640	780	750	---	---
29	690	660	670	650	670	630	670	630	---	---	---	---
30	700	680	700	670	700	670	690	670	820	810	---	---
31	---	---	700	690	---	---	700	690	810	800	---	---

3-2746. GREAT MIAMI RIVER AT NEW BALTIMORE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.8	3.0	5.7	4.8	7.2	5.8	---	---	---	---	---	---
2	3.8	3.4	4.8	4.1	6.3	6.1	---	---	---	---	9.9	9.1
3	3.4	3.3	4.3	3.7	---	---	---	---	---	---	9.6	8.9
4	4.5	3.4	4.7	3.9	---	---	---	---	---	---	10.1	9.4
5	4.3	4.0	4.0	3.0	---	---	---	---	---	---	---	---
6	4.5	4.1	4.6	3.6	---	---	---	---	---	---	8.4	7.6
7	4.3	4.2	4.8	2.6	---	---	---	---	---	---	7.7	7.0
8	4.5	4.2	4.8	3.1	---	---	---	---	---	---	8.1	7.7
9	4.6	4.1	5.6	4.8	---	---	---	---	---	---	---	---
10	4.5	4.2	5.7	5.2	---	---	---	---	---	---	9.2	8.8
11	4.6	4.4	5.9	5.2	---	---	---	---	---	---	9.5	9.2
12	4.6	4.4	5.7	5.1	---	---	---	---	---	---	9.2	8.2
13	4.6	4.4	6.3	5.7	9.6	8.8	---	---	---	---	---	---
14	4.8	4.6	6.4	5.6	9.6	8.7	---	---	---	---	---	---
15	4.7	4.6	6.1	5.1	10.2	9.5	---	---	---	---	---	---
16	5.0	4.7	5.5	4.4	11.2	9.8	---	---	---	---	---	---
17	4.8	4.6	---	---	10.4	9.6	---	---	---	---	---	---
18	5.0	4.7	7.9	6.8	9.6	7.1	---	---	---	---	---	---
19	5.3	5.0	8.1	7.9	9.6	7.1	14.3	13.2	---	---	---	---
20	5.5	5.2	9.0	8.1	10.9	9.2	---	---	9.9	9.0	---	---
21	5.6	4.8	9.0	8.4	9.8	7.8	---	---	9.6	8.7	7.5	6.4
22	4.8	4.6	8.4	7.6	8.1	7.0	12.1	9.6	8.7	7.9	7.2	6.4
23	4.6	4.1	7.8	7.2	---	---	---	---	8.4	7.6	7.2	---
24	4.4	4.1	7.2	6.4	---	---	---	---	---	---	---	---
25	4.1	4.0	7.6	7.2	---	---	10.6	8.5	9.6	9.3	---	---
26	4.5	4.1	7.9	7.6	---	---	8.5	7.6	9.4	9.0	---	---
27	4.1	4.0	8.2	7.9	---	---	---	---	9.4	8.7	12.7	11.4
28	4.2	4.0	8.0	7.5	---	---	---	---	9.0	8.3	12.4	11.5
29	---	---	7.5	6.9	---	---	---	---	---	---	12.3	11.9
30	---	---	7.2	7.0	---	---	---	---	---	---	12.8	12.0
31	5.1	5.1	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	8.0	7.2	7.4	---	5.4	4.8	4.5	4.1	2.6	2.1
2	---	---	---	---	7.9	7.3	5.5	5.0	4.4	4.1	2.5	2.1
3	---	---	---	---	7.5	7.2	5.5	5.1	4.5	4.1	2.4	2.2
4	---	---	---	---	7.7	6.9	5.3	4.8	4.5	4.1	---	---
5	9.8	8.6	6.6	6.1	7.6	7.2	5.2	4.8	4.5	4.1	3.3	2.8
6	---	---	7.5	6.1	7.4	6.8	5.2	5.0	4.6	4.0	3.4	2.3
7	---	---	7.0	6.4	7.2	6.8	5.1	5.0	4.5	4.0	---	---
8	9.0	6.9	---	---	7.0	6.7	5.2	5.1	4.3	4.0	---	---
9	---	---	---	---	7.4	7.0	5.3	5.0	4.4	4.2	---	---
10	9.4	8.5	---	---	---	---	5.3	5.1	4.9	4.3	---	---
11	9.8	8.9	6.7	4.7	---	---	5.2	5.0	7.0	4.2	---	---
12	9.8	8.8	6.3	5.1	---	---	---	---	7.1	6.3	---	---
13	9.6	8.6	---	---	---	---	---	---	7.1	6.3	---	---
14	9.7	8.8	---	---	---	---	---	---	6.9	6.1	---	---
15	9.6	8.3	---	---	---	---	5.5	5.2	6.6	6.0	---	---
16	9.6	9.1	6.5	5.7	---	---	5.7	5.1	6.5	6.1	---	---
17	---	---	---	---	---	---	5.1	4.8	6.5	6.1	---	---
18	6.8	5.9	---	---	---	---	4.8	3.0	6.6	5.9	---	---
19	8.1	5.9	6.5	5.4	---	---	3.3	3.1	6.4	6.0	---	---
20	---	---	---	---	---	---	3.3	3.0	7.0	6.1	---	---
21	---	---	---	---	---	---	3.5	3.0	6.7	6.2	---	---
22	---	---	8.3	6.2	---	---	---	---	7.1	6.2	---	---
23	10.0	9.4	7.8	6.5	---	---	6.2	4.3	7.0	6.2	---	---
24	9.8	8.7	7.6	6.4	6.8	5.9	4.5	4.2	6.7	6.1	---	---
25	---	---	7.4	6.4	5.9	5.3	4.4	4.1	6.8	6.2	---	---
26	---	---	---	---	6.2	5.4	4.4	4.0	---	---	---	---
27	7.6	6.9	---	---	5.9	5.2	4.5	4.1	---	---	---	---
28	---	---	---	---	6.3	5.9	4.6	4.2	---	---	---	---
29	---	---	---	---	6.4	6.1	4.5	4.3	---	---	---	---
30	---	---	---	---	6.3	5.1	4.6	4.2	2.6	2.5	---	---
31	---	---	---	---	---	---	4.5	4.1	2.6	2.4	---	---

3-2746. GREAT MIAMI RIVER AT NEW BALTIMORE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.0	23.0	17.0	13.0	9.0	8.0	---	---	8.0	6.0	5.0	4.0
2	23.0	23.0	18.0	17.0	9.0	8.0	---	---	8.0	6.0	6.0	4.0
3	23.0	22.0	17.0	16.0	9.0	9.0	2.0	1.0	6.0	2.0	7.0	4.0
4	22.0	19.0	17.0	16.0	9.0	8.0	1.0	1.0	3.0	2.0	7.0	5.0
5	20.0	18.0	17.0	16.0	8.0	6.0	1.0	0.0	---	---	7.0	5.0
6	19.0	17.0	17.0	16.0	6.0	5.0	2.0	1.0	---	---	8.0	6.0
7	17.0	16.0	17.0	15.0	6.0	4.0	2.0	1.0	6.0	5.0	9.0	7.0
8	18.0	17.0	15.0	14.0	4.0	3.0	2.0	---	6.0	4.0	9.0	8.0
9	19.0	18.0	14.0	13.0	3.0	3.0	---	---	4.0	4.0	8.0	6.0
10	20.0	18.0	13.0	12.0	5.0	3.0	---	---	4.0	3.0	7.0	7.0
11	18.0	17.0	12.0	11.0	6.0	4.0	---	---	6.0	3.0	7.0	5.0
12	21.0	18.0	11.0	10.0	7.0	6.0	---	---	4.0	4.0	7.0	4.0
13	23.0	21.0	11.0	9.0	8.0	7.0	3.0	2.0	4.0	3.0	8.0	5.0
14	23.0	22.0	9.0	9.0	7.0	5.0	3.0	2.0	4.0	3.0	8.0	6.0
15	24.0	23.0	12.0	9.0	5.0	4.0	4.0	3.0	4.0	3.0	9.0	6.0
16	24.0	23.0	13.0	12.0	5.0	3.0	6.0	4.0	4.0	3.0	9.0	6.0
17	24.0	23.0	14.0	13.0	5.0	3.0	7.0	3.0	4.0	4.0	11.0	8.0
18	23.0	22.0	13.0	10.0	6.0	4.0	3.0	2.0	7.0	4.0	12.0	9.0
19	23.0	21.0	10.0	8.0	8.0	6.0	2.0	2.0	7.0	5.0	13.0	9.0
20	22.0	20.0	8.0	7.0	7.0	6.0	3.0	2.0	7.0	6.0	13.0	12.0
21	20.0	18.0	8.0	7.0	7.0	6.0	4.0	3.0	7.0	4.0	12.0	11.0
22	18.0	17.0	8.0	7.0	7.0	6.0	7.0	4.0	6.0	5.0	12.0	9.0
23	18.0	16.0	10.0	8.0	6.0	3.0	8.0	6.0	6.0	6.0	12.0	11.0
24	16.0	14.0	11.0	10.0	4.0	2.0	8.0	5.0	7.0	5.0	12.0	11.0
25	15.0	14.0	10.0	9.0	---	---	5.0	3.0	6.0	5.0	12.0	9.0
26	16.0	14.0	9.0	9.0	---	---	3.0	2.0	7.0	4.0	9.0	8.0
27	14.0	14.0	9.0	9.0	---	---	5.0	2.0	7.0	4.0	9.0	7.0
28	14.0	12.0	11.0	9.0	---	---	6.0	4.0	6.0	4.0	9.0	7.0
29	13.0	12.0	10.0	8.0	---	---	7.0	6.0	---	---	9.0	8.0
30	14.0	12.0	10.0	8.0	---	---	8.0	7.0	---	---	8.0	6.0
31	14.0	12.0	---	---	---	---	8.0	7.0	---	---	8.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	6.0	19.0	17.0	27.0	26.0	29.0	26.0	29.0	27.0	28.0	26.0
2	11.0	8.0	21.0	18.0	26.0	23.0	29.0	25.0	29.0	28.0	28.0	26.0
3	11.0	9.0	22.0	20.0	23.0	22.0	29.0	27.0	29.0	27.0	28.0	24.0
4	13.0	11.0	24.0	21.0	23.0	21.0	31.0	29.0	29.0	27.0	---	---
5	13.0	13.0	25.0	22.0	24.0	22.0	31.0	29.0	28.0	27.0	28.0	27.0
6	13.0	11.0	25.0	23.0	26.0	23.0	30.0	28.0	29.0	27.0	28.0	27.0
7	11.0	9.0	26.0	24.0	26.0	23.0	29.0	27.0	29.0	28.0	28.0	27.0
8	12.0	10.0	26.0	24.0	27.0	24.0	27.0	26.0	29.0	28.0	28.0	27.0
9	13.0	12.0	24.0	21.0	26.0	23.0	27.0	26.0	29.0	27.0	27.0	25.0
10	16.0	13.0	21.0	17.0	25.0	23.0	28.0	26.0	28.0	23.0	---	---
11	16.0	15.0	18.0	16.0	26.0	24.0	29.0	27.0	24.0	22.0	---	---
12	17.0	16.0	19.0	16.0	27.0	25.0	30.0	28.0	26.0	23.0	---	---
13	17.0	16.0	17.0	17.0	27.0	25.0	30.0	28.0	27.0	24.0	---	---
14	17.0	17.0	18.0	17.0	27.0	25.0	30.0	28.0	28.0	25.0	---	---
15	17.0	16.0	21.0	18.0	25.0	22.0	31.0	28.0	28.0	27.0	25.0	24.0
16	20.0	17.0	23.0	21.0	22.0	20.0	32.0	29.0	29.0	28.0	25.0	24.0
17	21.0	19.0	23.0	22.0	24.0	21.0	32.0	30.0	29.0	28.0	26.0	24.0
18	21.0	18.0	23.0	22.0	23.0	23.0	33.0	31.0	29.0	28.0	24.0	22.0
19	18.0	14.0	22.0	19.0	24.0	22.0	32.0	31.0	29.0	28.0	22.0	22.0
20	14.0	12.0	19.0	19.0	24.0	22.0	32.0	29.0	30.0	28.0	23.0	21.0
21	13.0	12.0	20.0	19.0	26.0	23.0	30.0	27.0	29.0	27.0	22.0	21.0
22	14.0	13.0	20.0	19.0	25.0	24.0	---	---	28.0	26.0	23.0	22.0
23	14.0	13.0	20.0	19.0	24.0	22.0	27.0	25.0	28.0	26.0	22.0	21.0
24	15.0	13.0	21.0	19.0	22.0	22.0	27.0	26.0	28.0	26.0	22.0	20.0
25	17.0	14.0	21.0	18.0	23.0	22.0	28.0	26.0	28.0	27.0	22.0	20.0
26	18.0	16.0	---	---	25.0	23.0	29.0	27.0	---	---	23.0	21.0
27	19.0	18.0	---	---	27.0	24.0	29.0	28.0	---	---	23.0	22.0
28	20.0	19.0	---	---	29.0	26.0	28.0	27.0	---	---	25.0	21.0
29	19.0	18.0	---	---	29.0	27.0	28.0	26.0	---	---	24.0	23.0
30	18.0	17.0	---	---	29.0	28.0	28.0	26.0	29.0	28.0	26.0	23.0
31	---	---	---	---	---	---	29.0	27.0	29.0	28.0	---	---

3-2766. GREAT MIAMI RIVER AT ELIZABETHTOWN, OHIO

LOCATION.--Lat 39°09'11", long 84°47'38", Hamilton County, at Lost Bridge on Lawrenceburg Road, 0.6 mile southeast of Elizabethtown, 0.9 mile downstream from Whitewater River, and 5.4 miles upstream from mouth.
DRAINAGE AREA.--5,356 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1956 to September 1969.
Water temperatures: October 1956 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 881 micromhos Jan. 11; minimum daily, 342 micromhos Jan. 20, 31, Aug. 11.
Water temperatures: Maximum, 30°C July 5, 16; minimum, 1°C Jan. 4, 5, 7, 8, 10.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.									
03...	--	--	--	260	0	144	48	.7	15
09...	--	--	--	260	0	106	48	.7	16
21...	1530	120	20	--	--	--	--	--	--
23...	--	--	--	288	0	119	56	.7	27
NOV.									
02...	--	--	--	288	0	162	54	.6	20
13...	--	640	90	260	0	108	50	.5	18
30...	--	--	--	240	0	71	24	.3	16
DEC.									
11...	1115	370	100	--	--	--	--	--	--
19...	--	--	--	280	0	112	38	.3	16
27...	--	--	--	280	0	71	28	.3	18
30...	--	--	--	160	0	46	14	.2	19
JAN.									
07...	1530	340	20	--	--	--	--	--	--
11...	--	--	--	292	0	113	62	.3	8.5
20...	--	--	--	118	0	37	14	.2	8.3
28...	--	--	--	232	0	81	26	.2	18
FEB.									
01...	--	--	--	140	0	41	12	.2	17
05...	1515	150	70	--	--	--	--	--	--
15...	--	--	--	240	12	86	28	.3	21
27...	--	--	--	286	0	96	32	.3	20
MAR.									
16...	--	--	--	280	0	102	36	.5	16
23...	--	--	--	270	0	115	38	.5	15
31...	--	--	--	252	0	79	27	.2	19
APR.									
07...	--	--	--	176	0	50	14	.3	17
10...	1415	90	30	--	--	--	--	--	--
15...	--	--	--	252	0	82	24	.3	14
29...	--	--	--	268	0	90	28	.3	6.1
MAY									
02...	--	--	--	280	0	88	32	.4	15
05...	1345	320	40	--	--	--	--	--	--
06...	--	--	--	280	0	98	32	.4	11
11...	--	--	--	252	--	60	22	.3	12
JUNE									
10...	1600	40	20	--	--	--	--	--	--
22...	0545	--	--	276	0	89	32	.4	31
24...	0530	--	--	168	--	38	14	.3	25
29...	0545	--	--	260	0	66	22	.4	35
JULY									
05...	0630	--	--	298	--	89	36	.6	12
07...	0610	--	--	280	0	76	30	.4	16
14...	1530	100	130	--	--	--	--	--	--
22...	0608	--	--	182	0	43	15	.3	--
AUG.									
04...	0610	--	--	300	--	90	35	.3	16
11...	0615	--	--	156	0	26	8.8	.2	7.5
11...	1700	910	140	--	--	--	--	--	--
30...	0630	--	--	302	0	97	45	.4	--
SEPT.									
03...	0615	--	--	220	--	72	36	.5	1.2
10...	0600	--	--	276	10	97	47	.6	12
15...	1715	100	70	--	--	--	--	--	--
16...	1600	--	--	280	10	110	50	.5	13

3-2766. GREAT MIAMI RIVER AT ELIZABETHTOWN, OHIO--Continued

EXTREMES, 1956-69.--Specific conductance: Maximum daily, 1,090 micromhos Jan. 6, 1964; minimum daily, 296 micromhos Jan. 28, 1962.
Water temperatures: Maximum, 32°C July 23-27, Aug. 3, 1964, July 3, 1966; minimum, freezing point on several days during winter period of most years.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analyis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
03...	.29	478	370	157	829	8.2	20	--	--
09...	.48	496	320	107	768	7.3	18	--	--
21...	--	--	--	--	--	--	18	6.6	69
23...	.64	560	390	154	878	7.4	15	--	--
NOV.									
02...	.50	562	370	134	874	7.7	16	--	--
13...	.74	476	320	107	773	8.1	0	8.0	69
30...	.44	366	305	108	594	8.2	10	--	--
DEC.									
11...	--	--	--	--	--	--	3	11.0	81
19...	.26	496	365	135	761	8.2	8	--	--
27...	.60	408	325	95	663	7.9	4	--	--
30...	.56	282	200	69	436	7.8	3	--	--
JAN.									
07...	--	--	--	--	--	--	--	12.0	84
11...	.33	530	375	136	881	7.3	2	--	--
20...	1.0	200	170	74	342	7.9	3	--	--
28...	.46	380	295	105	635	7.3	4	--	--
FEB.									
01...	.51	218	176	62	365	7.9	7	--	--
05...	--	--	--	--	--	--	15	10.2	101
15...	.49	400	324	107	676	8.5	4	--	--
27...	.35	434	350	115	738	7.5	7	--	--
MAR.									
16...	.52	486	345	115	750	8.2	10	--	--
23...	.41	492	340	119	776	7.3	12	--	--
31...	.72	406	306	99	638	8.2	8	--	--
APR.									
07...	1.3	302	208	64	442	8.0	14	--	--
10...	--	--	--	--	--	--	15	8.5	83
15...	.64	418	300	93	635	7.3	16	--	--
29...	.53	446	324	104	687	8.0	17	--	--
MAY									
02...	.67	432	325	95	709	7.5	19	--	--
05...	--	--	--	--	--	--	24	9.8	115
06...	.68	442	330	100	727	7.4	24	--	--
11...	.71	368	290	83	595	8.2	17	--	--
JUNE									
10...	--	--	--	--	--	--	21	8.8	98
22...	.86	450	330	104	729	7.6	22	--	--
24...	.96	264	188	50	422	7.7	22	--	--
29...	2.1	404	300	86	626	8.1	24	--	--
JULY									
05...	1.1	436	343	98	740	6.8	30	--	--
07...	1.4	406	320	90	680	8.1	28	--	--
14...	--	--	--	--	--	--	29	7.4	95
22...	.82	262	204	55	438	6.9	25	--	--
AUG.									
04...	1.3	--	344	98	738	8.2	28	--	--
11...	.86	216	157	29	342	7.0	22	--	--
11...	--	--	--	--	--	--	22	7.2	82
30...	1.7	486	344	96	793	7.3	28	--	--
SEPT.									
03...	1.8	--	266	86	589	7.2	26	--	--
10...	2.0	458	354	111	777	8.4	24	--	--
15...	--	--	--	--	--	--	25	8.4	100
16...	1.4	480	370	124	810	8.4	24	--	--

3-2766. GREAT MIAMI RIVER AT ELIZABETHTOWN, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	838	856	574	553	365	744	635	642	--	690	705	722
2.....	816	874	561	595	471	750	640	709	--	706	722	726
3.....	829	862	590	637	481	756	665	722	--	717	712	589
4.....	802	854	550	666	541	756	636	713	--	732	738	673
5.....	797	848	544	686	578	752	674	723	--	740	752	655
6.....	813	858	571	706	593	686	636	727	--	686	755	670
7.....	813	833	596	741	600	741	442	719	--	680	752	669
8.....	794	864	627	759	623	755	475	699	--	533	762	737
9.....	768	827	650	784	438	741	539	635	--	603	754	772
10.....	806	831	675	794	529	721	605	--	--	546	566	777
11.....	822	852	693	881	556	752	607	595	--	657	342	801
12.....	816	788	707	877	606	761	650	637	--	691	429	784
13.....	833	773	724	840	665	759	627	--	--	693	484	808
14.....	837	803	730	831	--	756	655	--	--	615	552	808
15.....	815	810	747	816	676	761	635	--	--	646	630	794
16.....	806	803	740	819	685	750	665	--	628	632	660	810
17.....	801	665	747	801	696	755	669	--	573	726	691	792
18.....	818	591	744	493	700	745	630	--	632	717	706	765
19.....	824	667	761	378	716	769	590	--	661	737	714	739
20.....	866	630	743	342	714	750	537	--	693	714	717	783
21.....	872	692	736	416	718	755	488	--	722	--	714	753
22.....	876	691	723	487	729	764	553	--	729	438	757	732
23.....	878	714	591	580	716	776	590	--	522	532	760	783
24.....	870	713	584	551	732	759	626	--	422	566	765	783
25.....	866	716	667	594	735	732	655	--	465	594	772	767
26.....	854	668	667	605	734	691	652	--	451	636	765	784
27.....	862	682	663	608	738	716	678	--	552	653	770	779
28.....	870	632	496	635	738	679	678	--	591	682	776	807
29.....	841	594	440	490	--	674	687	--	626	689	770	799
30.....	876	594	436	359	--	677	677	--	653	678	793	790
31.....	876	--	468	342	--	638	--	--	--	693	793	--
AVERAGE	834	752	636	634	632	736	616	--	--	654	696	755

MAXIMUM VALUE = 881 MINIMUM VALUE = 342

3-2766. GREAT MIAMI RIVER AT ELIZABETHTOWN, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	DAY																													
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	23	22	20	18	17	17	19	18	18	19	20	19	20	21	21	23	22	21	20	19	--	17	15	14	13	13	13	12	12	13	14	18
NOVEMBER.	15	16	15	15	15	15	14	13	12	10	10	10	9	10	11	12	13	11	9	8	9	10	10	11	11	10	10	11	11	10	--	12
DECEMBER.	9	9	9	9	7	6	5	5	4	5	5	6	7	6	5	3	4	5	8	6	6	6	3	3	2	3	4	6	4	3	3	5
JANUARY..	2	2	2	1	1	2	1	1	3	1	2	2	3	4	4	4	7	5	2	3	3	5	7	7	5	3	3	4	5	6	7	3
FEBRUARY.	7	8	5	5	5	6	6	6	4	5	5	4	4	--	4	4	5	6	7	7	8	8	8	8	9	8	7	8	--	--	--	6
MARCH....	7	8	9	10	10	9	10	9	9	7	7	7	8	8	9	10	12	13	13	13	13	12	12	12	10	8	9	9	10	9	8	10
APRIL....	9	10	12	14	15	14	14	14	14	15	14	15	16	15	16	18	20	19	25	23	15	13	12	13	15	19	18	18	17	16	--	16
MAY.....	18	19	21	23	23	24	24	23	23	--	17	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JUNE.....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	22	22	22	23	24	25	22	22	22	22	24	26	22	24	27	--	--
JULY.....	28	28	27	29	30	28	28	26	26	27	28	29	29	28	29	30	29	29	29	28	--	25	26	26	27	28	27	27	26	27	28	28
AUGUST...	27	27	28	28	28	28	28	28	27	25	22	23	24	26	27	28	28	28	28	28	27	27	27	27	27	28	28	28	28	28	29	27
SEPTEMBER	28	28	26	27	27	26	27	27	25	24	22	22	23	23	23	24	23	22	21	21	22	23	24	23	23	22	21	21	21	22	--	24

MAXIMUM VALUE = 30 MINIMUM VALUE = 1

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.
(Pesticide and radiochemical station)

LOCATION.--Lat 38°46'27", long 84°57'39", Gallatin County, about 1,000 ft upstream from dam, 0.7 mile upstream from Stevens Creek, 1.4 miles downstream from Craigs Creek, 3.3 miles west of Warsaw, and at mile 531.3.
DRAINAGE AREA.--83,170 sq mi, approximately.
PERIOD OF RECORD.--Chemical analyses: October 1959 to September 1969.
Water temperatures: October 1959 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 776 micromhos Oct. 26; minimum daily, 300 micromhos Feb. 3, 9.
Water temperatures: Maximum, 30°C July 18, 21; minimum, 1°C Jan. 11-15.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)
OCT.								
01...	1640	90	120	--	--	102	42	.4
17...	--	230	100	76	0	139	53	.6
26...	1625	80	200	--	--	200	80	.6
NOV.								
01...	--	60	90	--	--	191	74	.6
22...	1630	290	110	58	0	140	63	.6
28...	--	260	150	--	--	108	38	.4
DEC.								
01...	1630	240	260	--	--	107	30	.4
12...	1630	170	330	64	0	84	32	.3
30...	1600	1000	270	--	--	61	26	.3
JAN.								
02...	1630	1400	470	--	--	87	30	.3
22...	1800	300	220	70	0	63	26	.2
31...	1800	1300	280	--	--	47	16	.4
FEB.								
09...	1600	170	350	--	0	56	20	.2
17...	1700	210	260	68	0	62	20	.2
28...	1640	180	310	--	0	67	20	.2
MAR.								
01...	1615	150	190	--	--	70	23	.2
13...	1630	120	140	86	0	82	29	.3
29...	1730	130	160	--	--	89	43	.2
APR.								
07...	1800	570	270	--	--	94	29	.2
14...	1600	840	170	62	0	67	22	.2
23...	1630	300	80	--	--	58	21	.3
MAY								
07...	1700	160	60	--	--	68	23	.2
19...	1630	170	60	68	0	75	21	.2
21...	1800	180	40	--	--	66	19	.3
JUNE								
01...	1745	80	50	--	--	80	25	.3
10...	1900	30	20	96	0	84	25	.3
30...	1900	80	50	--	--	78	39	.3
JULY								
03...	1600	80	20	108	0	83	40	.4
17...	1630	110	30	--	--	125	50	.5
26...	1800	440	50	--	--	66	18	.3
AUG.								
11...	1640	150	90	--	--	109	44	.3
15...	1630	200	70	80	0	107	34	.4
25...	1830	320	140	--	--	76	27	.3
SEPT.								
05...	1700	100	100	64	0	80	36	.2
16...	1700	140	160	--	--	71	22	.2
30...	1730	170	180	--	--	113	38	.3

DATE	TOTAL CHROMIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CADMIUM (CD) (UG/L)
OCT.								
01-31	0	0	30	0	20	0	0	0
NOV.								
01-30	0	10	10	0	10	0	0	0
DEC.								
01-31	0	0	0	0	10	0	0	0
JAN.								
01-31	0	0	0	0	10	0	0	0
MAR.								
01-31	0	0	0	0	20	0	0	0
APR.								
01-30	0	0	10	0	10	0	0	0
MAY								
01-31	0	0	0	0	0	0	0	0
JUNE								
01-30	0	0	10	0	10	0	0	0
JULY								
01-31	0	10	10	0	10	0	0	0
AUG.								
01-31	0	10	10	10	20	0	0	0
SEPT.								
01-30	0	10	0	0	10	0	0	0

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.--Continued

EXTREMES, 1959-69.--Specific conductance: Maximum daily, 810 micromhos Oct. 21, 1962; minimum daily, 167 micromhos Mar. 3, 1962.
Water temperatures: Maximum, 31°C July 14, 1962; minimum, freezing point on many days during winter period.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese filtered clear when collected. Samples were also collected at this station for pesticide analyses to determine the extent and magnitude of pesticide contamination in the stream. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
01...	7.5	.36	--	182	--	495	8.1
17...	3.4	.31	350	198	136	594	8.0
26...	8.5	.22	--	238	--	776	7.3
NOV.							
01...	9.7	.22	--	236	--	747	7.9
22...	4.4	.24	378	192	145	618	7.1
28...	8.3	.24	--	162	--	484	7.9
DEC.							
01...	6.7	.23	--	172	--	453	7.5
12...	6.0	.17	250	148	96	404	7.6
30...	8.0	.34	--	152	--	362	8.1
JAN.							
02...	7.5	.06	--	142	--	398	7.5
22...	7.8	.17	218	130	72	351	7.3
31...	7.7	.19	--	125	--	304	7.4
FEB.							
09...	6.7	.17	--	116	--	300	8.0
17...	6.7	.05	214	124	68	318	7.9
28...	6.9	.12	--	142	--	359	7.3
MAR.							
01...	7.1	.12	--	144	--	365	7.3
13...	7.1	.19	282	160	90	418	8.2
29...	8.0	.13	--	161	--	463	7.6
APR.							
07...	7.8	.06	--	152	--	435	7.1
14...	5.4	.00	210	124	73	337	7.5
23...	5.8	.00	--	114	--	311	7.2
MAY							
07...	5.2	.18	--	128	--	331	7.8
19...	5.2	.09	228	140	84	350	7.4
21...	9.2	.24	--	166	--	386	7.5
JUNE							
01...	7.8	.20	--	168	--	401	7.5
10...	7.2	.23	274	180	102	432	7.6
30...	9.9	.18	--	176	--	475	8.1
JULY							
03...	10	.01	312	186	97	499	7.6
17...	7.8	.00	--	192	--	580	7.0
26...	7.4	.24	--	130	--	355	7.8
AUG.							
11...	12	.24	--	190	--	530	7.4
15...	11	.24	314	171	92	475	7.4
25...	11	.21	--	126	--	366	7.7
SEPT.							
05...	11	.31	238	131	78	388	7.8
16...	8.1	.22	--	130	--	361	7.8
30...	12	.29	--	184	--	492	7.6

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTA-CHLOR (UG/L)
OCT. 21...	.00	.00	.00	.00	.00	.00	.00
NOV. 13...	.00	.00	.00	.00	.00	.00	.00
DEC. 11...	.00	.00	.00	.00	.00	.00	.00
JAN. 08...	.00	.00	.00	.00	.00	.00	.00
FEB. 05...	.00	.00	.00	.11	.00	.00	.00
MAR. 04...	.00	.00	.00	.00	.00	.00	.00
APR. 10...	.00	.00	.00	.00	.00	.00	.00
MAY 05...	.00	.00	.00	.00	.00	.00	.00
JUNE 10...	.03	.00	.00	.00	.00	.00	.00
JULY 14...	.00	.00	.00	.00	.13	.00	.00
AUG. 11...	.00	.00	.00	.11	.00	.00	.00
SEPT. 15...	.00	.00	.00	.00	.00	.03	.00

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	DISSOLVED						SUSPENDED		
Date	URANIUM µg/l	RADIUM pCi/l	GROSS α µg U/l	GROSS β pCi/l	TRITIUM T.U.	DISSOLVED SOLIDS mg/l	GROSS α µg U/l	GROSS β pCi/l	SUSPENDED SEDIMENTS mg/l
OCT. 21...	--	--	--	--	233	--	--	--	--
NOV. 13...	--	--	--	--	188	--	--	--	--
DEC. 11...	--	--	--	--	203	--	--	--	--
JAN. 8....	--	--	--	--	177 ± 7	--	--	--	--
FEB. 5....	--	--	--	--	176 ± 7	--	--	--	--
APR. 10...	--	--	--	--	190 ± 7	--	--	--	--
APR. 12...	.07	.08	.6	3.1	--	230	4.4	4.2	40
MAY 5....	--	--	--	--	188 ± 6	--	--	--	--
JUNE 10...	--	--	--	--	205 ±31	--	--	--	--
JULY 14...	--	--	--	--	215 ± 6	--	--	--	--
AUG. 11...	--	--	--	--	237 ± 7	--	--	--	--
SEPT. 15...	.09	.06	2.5	4.0	161 ± 7	190	.6	< .4	16

GPO 822-622-14

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.--Continued

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HEPTACHLOR EPOXIDE (UG/L)	METHOXYCHLOR (UG/L)	LINDANE (UG/L)	CHLORDANE (UG/L)	MALATHION (UG/L)	PARATHION (UG/L)	METHYL PARATHION (UG/L)
OCT. 21...	.00	.00	.00	.00	.00	.00	.00
NOV. 13...	.00	.00	.00	.00	.00	.00	.00
DEC. 11...	.00	.00	.00	.00	.00	.00	.00
JAN. 08...	.00	.00	.00	.00	.00	.00	.00
FEB. 05...	.00	.00	.00	.00	.00	.00	.00
MAR. 04...	.00	.00	.00	.00	.00	.00	.00
APR. 10...	.00	.00	.00	.00	.00	.00	.00
MAY 05...	.00	.00	.00	.00	.00	.00	.00
JUNE 10...	.00	.00	.00	.00	.00	.00	.00
JULY 14...	.00	.00	.00	.00	.00	.00	.00
AUG. 11...	.00	.00	.00	.00	.00	.00	.00
SEPT. 15...	.00	.00	.00	.00	.00	.00	.00

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 1600 AND 1800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	495	747	453	383	308	365	409	340	401	491	467	398
2.....	--	743	449	398	313	367	420	347	409	--	476	398
3.....	--	--	449	398	300	369	398	344	420	499	482	408
4.....	520	--	421	381	--	378	405	--	421	500	485	396
5.....	520	--	416	370	316	388	407	337	419	500	487	388
6.....	532	714	417	374	318	391	432	334	426	523	495	--
7.....	541	--	420	--	316	387	435	331	437	514	507	384
8.....	556	744	402	362	--	395	433	331	430	506	510	387
9.....	580	--	420	351	300	403	396	331	426	506	512	373
10.....	--	734	416	348	316	407	371	344	432	499	511	377
11.....	585	718	410	345	316	412	369	350	431	500	530	380
12.....	584	688	404	342	308	412	373	347	422	529	515	380
13.....	--	663	404	342	321	418	328	357	422	553	494	378
14.....	588	623	399	335	313	418	337	369	424	527	480	--
15.....	591	596	406	338	308	425	340	369	421	524	475	370
16.....	593	567	420	345	308	424	337	366	430	539	471	361
17.....	594	600	414	335	318	428	344	--	462	580	466	363
18.....	611	621	405	--	330	432	319	340	446	549	466	383
19.....	--	--	393	370	333	441	319	350	438	471	472	383
20.....	670	628	381	366	333	446	319	371	436	384	479	--
21.....	687	632	377	342	330	449	319	386	434	428	466	426
22.....	722	618	403	351	330	451	319	376	440	413	438	438
23.....	740	526	--	366	330	--	311	--	434	386	438	--
24.....	752	526	--	382	339	446	311	366	440	368	--	436
25.....	770	550	369	--	--	428	311	373	450	364	366	464
26.....	776	550	378	391	352	427	317	384	459	355	367	438
27.....	770	515	378	392	352	423	319	373	450	379	366	478
28.....	759	484	381	373	359	430	331	378	440	392	373	480
29.....	748	491	375	345	--	463	--	378	--	--	399	480
30.....	742	495	362	345	--	416	331	--	475	436	417	492
31.....	740	--	373	304	--	416	--	--	--	444	--	--
AVERAGE	644	615	403	359	322	415	357	356	433	471	462	409

MAXIMUM VALUE = 776 MINIMUM VALUE = 300

3-2772. OHIO RIVER AT MARKLAND DAM, NEAR WARSAW, KY.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 1600 AND 1800)

	DAY																														
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	23	--	--	22	23	22	21	21	21	--	21	21	--	22	22	--	--	--	--	24	21	21	20	20	18	18	18	17	17	17	17	--
NOVEMBER.	17	17	--	--	--	17	--	16	--	16	15	14	13	13	14	13	13	13	--	12	11	12	12	11	11	11	11	11	11	11	--	13
DECEMBER.	10	9	9	9	8	8	8	8	8	8	7	7	7	6	6	4	4	4	5	5	5	5	--	--	4	4	4	2	2	4	4	6
JANUARY..	3	3	3	3	3	2	--	2	2	2	1	1	1	1	1	2	2	--	3	3	2	2	2	3	--	3	3	4	4	4	4	2
FEBRUARY.	5	6	6	--	6	6	6	--	5	6	6	5	5	5	4	4	4	4	4	4	4	5	5	5	--	5	5	5	--	--	--	5
MARCH....	6	6	6	6	6	6	6	6	6	5	6	6	6	7	6	7	6	6	--	8	8	8	--	7	7	8	9	9	9	8	8	7
APRIL....	9	10	11	11	11	11	11	11	11	12	12	12	13	12	12	14	14	14	14	16	15	15	15	15	16	16	16	16	--	--	--	13
MAY.....	16	16	16	--	18	18	18	18	18	18	18	17	17	18	--	18	--	18	19	19	18	19	--	20	21	21	21	21	22	--	--	19
JUNE.....	23	23	23	23	23	23	23	24	23	24	24	24	24	24	24	24	25	24	24	26	24	25	24	25	26	26	26	26	--	27	--	24
JULY.....	27	--	28	28	29	29	--	28	28	28	29	29	29	29	29	29	29	30	29	29	30	28	29	28	--	28	28	28	--	28	28	29
AUGUST...	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	--	27	27	27	27	26	27	--	28
SEPTEMBER	27	27	27	27	27	--	27	27	26	26	26	26	26	--	25	24	24	25	24	--	24	24	--	24	24	24	24	23	23	23	--	25

MAXIMUM VALUE = 30 MINIMUM VALUE = 1

3-2945. OHIO RIVER AT LOUISVILLE, KY.

LOCATION.--Lat 38°11'01", long 85°53'32", Jefferson County, at raw water intake of Louisville Gas and Electric Company Cane Run Power Station at Louisville, 9.2 miles downstream from gaging station, and at mile 616.5.
DRAINAGE AREA.--91,170 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1969.
Water temperatures: October 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 811 micromhos Nov. 8; minimum daily, 310 micromhos Jan. 30.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	MEAN DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.									
01...	14300	90	130	--	--	97	40	.5	9.0
16...	12800	150	60	83	0	114	50	.6	5.1
31...	20600	310	150	--	--	187	84	.8	16
NOV.									
01...	13800	670	350	--	--	187	74	.7	11
03...	28000	300	70	52	0	196	82	.9	11
08...	22800	170	130	--	--	208	82	.8	14
DEC.									
17...	53500	550	270	76	0	88	46	.5	4.2
22...	72500	910	290	--	--	93	42	.5	11
24...	107000	520	220	--	--	75	36	.4	7.4
JAN.									
09...	54600	810	540	--	--	93	36	.3	4.0
26...	182000	430	300	70	0	73	38	.3	4.6
30...	294000	1600	290	--	--	61	16	.1	3.6
FEB.									
10...	241000	780	380	--	0	--	20	.2	7.8
15...	131000	1500	440	74	0	62	25	.3	7.8
25...	53300	470	280	--	--	69	30	.6	11
MAR.									
01...	58100	470	240	--	--	--	--	--	9.9
17...	38400	250	240	--	--	85	40	.5	9.3
30...	140000	560	180	74	0	86	37	.2	9.8
APR.									
04...	82400	370	100	--	--	88	40	.4	11
15...	148000	420	150	68	0	69	21	.3	8.3
24...	176000	340	130	--	--	54	20	.2	6.6
MAY									
13...	173000	360	70	--	--	67	24	.2	6.0
19...	114000	220	60	66	0	75	26	.3	8.0
30...	53100	290	150	--	--	78	28	.6	6.0
JUNE									
01...	42100	400	60	--	--	--	28	.4	8.5
09...	29200	220	70	70	0	74	44	.5	12
18...	41400	240	100	--	--	86	66	.5	10
JULY									
13...	93300	350	110	128	0	95	42	.6	11
21...	56000	210	120	--	--	135	54	.6	9.4
29...	61500	500	120	--	--	73	26	.4	9.7
AUG.									
02...	41500	860	160	102	0	91	37	.3	13
14...	57100	270	90	--	--	112	36	.6	15
31...	12200	370	100	--	--	77	32	.3	13
SEPT.									
01...	19200	140	90	--	--	81	36	.2	10
11...	36300	220	100	--	--	89	46	.3	15
25...	23700	320	100	62	0	80	38	.4	20

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	NICKEL (NI) (UG/L)	COPPER (CU) (UG/L)	LEAD (PB) (UG/L)	ZINC (ZN) (UG/L)	COBALT (CO) (UG/L)	ARSENIC (AS) (UG/L)	CAD-MIUM (CD) (UG/L)
OCT.								
01-31	0	10	20	10	20	0	10	0
NOV.								
01-16	0	0	40	20	60	0	0	0
DEC.								
01-31	10	10	20	0	40	0	0	0
JAN.								
01-31	0	0	10	0	20	0	0	0
FEB.								
01-28	10	0	10	0	10	0	0	0
MAR.								
01-31	10	0	0	0	30	0	0	0
APR.								
01-30	0	10	10	0	20	0	0	0
MAY								
01-31	0	10	10	0	20	0	0	0
JUNE								
01-30	10	0	10	0	30	0	0	0
JULY								
01-31	0	0	10	10	20	0	0	0
AUG.								
01-31	0	10	10	10	30	0	0	0
SEPT.								
01-30	0	10	10	0	30	0	0	0

3-2945. OHIO RIVER AT LOUISVILLE, KY.--Continued

EXTREMES, 1968-69--Continued
Water temperatures: Maximum, 32°C July 20; minimum, 1°C on several days during January.
REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month to determine heavy metals. Samples for iron and manganese filtered clear when collected. Low and medium flow affected by operation of power plant and navigation dams.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)
OCT.							
01...	.66	--	164	--	477	7.0	24
16...	.52	326	192	124	540	8.0	22
31...	.54	--	232	--	787	7.3	17
NOV.							
01...	.43	--	230	--	753	7.0	17
03...	.73	478	235	193	788	7.2	17
08...	.55	--	244	--	811	6.8	16
DEC.							
17...	.58	284	160	98	482	7.4	5
22...	.73	--	200	--	510	7.9	6
24...	.41	--	158	--	411	7.5	3
JAN.							
09...	.31	--	180	--	458	7.6	2
26...	.22	272	144	86	403	7.0	2
30...	.18	--	132	--	310	7.2	6
FEB.							
10...	.09	--	122	--	316	7.8	0
15...	.10	216	136	76	346	7.7	4
25...	.22	--	144	--	404	7.2	6
MAR.							
01...	.26	--	148	--	384	7.4	5
17...	.62	--	180	--	495	7.6	7
30...	.17	234	158	98	448	7.0	--
APR.							
04...	.52	--	150	--	462	6.7	11
15...	.30	224	132	76	361	7.4	13
24...	.24	--	120	--	322	6.8	15
MAY							
13...	.42	--	152	--	345	7.3	17
19...	.20	216	154	100	382	7.3	20
30...	.45	--	167	--	431	7.4	23
JUNE							
01...	--	--	--	--	417	7.7	23
09...	.32	375	173	116	475	6.9	24
18...	.28	--	177	--	511	6.5	25
JULY							
13...	.23	306	182	77	531	8.2	30
21...	.66	--	202	--	628	6.5	30
29...	.44	--	140	--	408	7.6	27
AUG.							
02...	--	306	185	102	505	7.4	28
14...	.53	--	204	--	590	7.0	28
31...	.46	--	140	--	411	7.7	28
SEPT.							
01...	.57	--	141	--	399	7.7	28
11...	--	--	168	--	470	7.4	26
25...	.52	268	138	87	423	6.8	--

3-2945. OHIO RIVER AT LOUISVILLE, KY.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 1000 AND 1200)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	477	753	--	--	343	384	--	348	417	495	467	399
2.....	478	767	--	407	318	404	457	355	432	504	505	410
3.....	478	788	--	388	327	420	455	379	438	482	496	410
4.....	480	795	--	416	327	418	462	375	445	--	489	433
5.....	489	792	--	422	346	432	456	391	452	476	503	403
6.....	497	792	--	429	336	433	419	401	446	512	519	426
7.....	487	790	--	417	336	431	413	393	488	546	540	455
8.....	494	811	--	435	336	438	447	380	461	548	536	460
9.....	494	794	--	458	324	432	456	375	475	560	538	455
10.....	496	780	--	427	316	447	426	393	483	588	541	461
11.....	537	756	--	433	343	454	402	359	471	544	530	470
12.....	528	770	477	441	330	441	388	355	457	548	544	456
13.....	538	790	481	439	324	450	399	345	492	531	551	421
14.....	541	794	484	434	327	458	430	362	496	538	590	424
15.....	542	782	466	447	346	478	361	351	483	559	584	--
16.....	540	766	484	411	346	470	364	376	494	604	553	430
17.....	536	--	482	428	353	495	354	389	493	620	552	425
18.....	543	--	489	382	360	484	354	368	511	571	540	449
19.....	553	--	493	366	371	480	344	382	472	596	536	413
20.....	591	--	485	370	373	469	325	366	--	595	532	--
21.....	593	--	--	388	371	472	325	366	487	628	497	--
22.....	603	--	510	376	393	473	328	384	490	592	472	438
23.....	646	--	424	355	392	466	325	393	--	479	470	411
24.....	695	--	411	355	402	447	322	401	--	476	470	412
25.....	709	--	--	383	404	470	331	400	--	476	466	423
26.....	--	--	--	403	392	469	325	410	--	423	476	418
27.....	726	--	--	402	395	446	322	410	--	426	504	406
28.....	729	--	--	396	400	437	354	411	--	418	458	411
29.....	749	--	--	388	--	436	331	409	--	408	454	415
30.....	773	--	--	310	--	448	350	431	--	424	455	416
31.....	787	--	--	339	--	472	--	431	--	467	411	--
AVERAGE	577	--	--	401	354	450	380	383	--	521	509	427

MAXIMUM VALUE = 811 MINIMUM VALUE = 310

3-2945. OHIO RIVER AT LOUISVILLE, KY.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY BETWEEN 1000 AND 1200)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	24	24	24	23	23	23	22	21	21	21	21	21	22	21	22	22	22	22	22	21	21	21	19	19	18	--	18	18	17	16	17	21
NOVEMBER.	17	17	17	16	16	16	16	16	15	15	14	13	13	13	14	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DECEMBER.	--	--	--	--	--	--	--	--	--	--	--	7	7	7	6	6	5	6	6	6	--	6	4	3	--	--	--	--	--	--	--	--
JANUARY..	--	2	2	2	1	1	1	1	2	2	2	1	1	1	1	1	2	3	2	2	3	3	3	3	3	2	2	3	4	6	5	2
FEBRUARY.	6	6	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	5	6	6	6	5	--	--	--	5
MARCH....	5	6	6	6	6	6	7	7	6	5	5	5	5	6	8	6	7	7	7	8	9	8	8	9	9	8	8	8	8	8	8	7
APRIL....	--	--	10	11	12	11	11	12	12	12	13	12	12	13	13	13	14	14	14	14	15	14	14	14	14	14	15	16	15	15	--	13
MAY.....	16	16	17	17	17	18	18	19	19	18	18	17	17	18	18	19	19	19	20	20	20	21	20	20	20	21	21	22	22	23	23	19
JUNE.....	23	23	23	23	23	23	24	24	24	24	25	26	26	26	24	24	25	25	25	--	26	25	--	--	--	--	--	--	--	--	--	--
JULY.....	28	29	28	--	29	29	29	29	29	29	29	29	29	29	29	29	29	29	31	32	29	29	29	29	29	28	28	28	27	27	28	29
AUGUST...	28	28	28	28	28	28	28	28	28	28	28	27	28	28	28	28	28	29	28	28	28	27	27	27	27	27	27	28	27	27	28	28
SEPTEMBER	28	28	28	28	28	28	28	28	27	26	26	24	26	26	--	26	26	26	24	--	--	24	24	24	23	23	23	22	23	23	--	26

MAXIMUM VALUE = 32 MINIMUM VALUE = 1

3-3419.1. WABASH RIVER AT HUTSONVILLE, ILL.

LOCATION.--Lat 39°08'03", long 87°39'30", Crawford County, at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor station at Central Illinois Public Service Company at Hutsonville.
DRAINAGE AREA.--12,600 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: November 1964 to December 1965, October 1967 to September 1969.
Water temperatures: November 1964 to December 1965, October 1967 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 712 micromhos Dec. 23; minimum daily, 245 micromhos Jan. 31.
Water temperatures: Maximum, 29°C July 17-20, Aug. 20, 21, 29-31, Sept. 1; minimum, freezing point Jan. 2.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.								
07...	0800	3260	280	80	--	--	80	24
15...	0800	4080	90	0	254	0	79	21
30...	0800	3120	190	70	--	--	85	24
NOV.								
04...	0800	2820	160	40	254	12	85	24
11...	0830	3340	80	20	--	--	95	26
19...	0800	8010	610	100	--	--	79	24
DEC.								
11...	0830	6360	230	70	262	6	91	24
23...	0800	5080	240	90	--	--	94	30
28...	0800	9970	170	90	--	--	61	16
JAN.								
03...	0830	--	680	50	187	0	70	18
17...	0815	6260	350	70	--	--	88	22
31...	0800	52400	290	40	--	--	32	6.0
FEB.								
03...	0800	87800	1300	140	98	0	31	8.0
17...	0800	27400	500	40	178	0	61	14
27...	0800	11300	180	60	247	0	75	17
MAR.								
10...	0800	8330	330	50	254	6	87	21
20...	0800	6570	130	60	--	--	87	23
25...	0800	8780	620	90	--	--	77	21
APR.								
04...	0800	12200	60	0	--	--	83	20
16...	0800	21100	210	10	196	8	72	16
19...	0800	32100	830	150	--	--	51	8.0
MAY								
19...	0800	14400	450	230	--	--	58	13
23...	0800	15100	320	60	248	0	71	18
31...	0800	7800	120	30	--	--	77	18
JUNE								
03...	0800	6970	80	20	--	--	81	18
23...	0800	10600	210	50	236	0	67	19
27...	0800	18600	60	20	--	--	46	13
JULY								
06...	0800	6330	140	40	--	--	74	20
09...	0800	19000	610	120	--	--	38	10
17...	0800	10800	270	80	218	0	58	15
AUG.								
12...	0800	7210	740	80	--	--	59	16
14...	1000	--	--	--	--	--	--	--
26...	0800	3300	300	110	224	0	78	23
31...	0800	2780	100	70	--	--	78	26
SEPT.								
07...	0800	2750	120	100	234	0	83	20
11...	0800	2620	440	110	--	--	82	23
19...	0800	8600	540	100	--	--	56	12

3-3419.1. WABASH RIVER AT HUTSONVILLE, ILL.--Continued

EXTREMES, 1964-65, 1967-69.--Specific conductance: Maximum daily, 784 micromhos Jan. 24, 1965; minimum daily, 233 micromhos Jan. 30, 1968.
Water temperatures: Maximum, 31°C Aug. 19, 1965; minimum, freezing point Jan. 2, 1969.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, and (3) median daily specific conductance for each month. Records of discharge are given for 03-3420.00 Wabash River at Riverton, Ind. (drainage area 13,100 sq mi approximately).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.								
07...	.3	5.6	.61	--	274	--	583	7.5
15...	.4	2.0	.62	364	297	88	618	7.7
30...	.4	5.5	.71	--	324	--	674	7.7
NOV.								
04...	.4	1.6	.66	408	330	102	650	8.5
11...	.4	6.4	1.1	--	322	--	686	7.8
19...	.4	12	.57	--	290	--	591	8.2
DEC.								
11...	.3	15	.57	426	332	107	670	8.4
23...	.3	13	.68	--	340	--	712	8.4
28...	.3	14	.59	--	206	--	451	8.1
JAN.								
03...	.5	9.5	.45	316	263	110	517	8.2
17...	.2	6.8	.41	--	333	--	647	8.3
31...	.3	5.3	.35	--	114	--	245	8.0
FEB.								
03...	.2	7.2	.57	--	121	40	262	7.2
17...	.3	9.4	.36	284	230	84	459	8.1
27...	.2	6.8	.32	--	305	102	594	8.2
MAR.								
10...	.2	14	.31	386	314	96	646	8.3
20...	.3	12	.42	--	318	--	663	8.0
25...	.5	11	.41	--	258	--	554	7.4
APR.								
04...	.1	20	.34	--	298	--	622	7.6
16...	.3	19	.32	332	268	94	546	8.4
19...	.2	14	.20	--	190	--	396	7.3
MAY								
19...	.2	16	.34	--	244	--	484	7.5
23...	.3	19	--	358	304	101	597	7.7
31...	.3	14	.37	--	320	--	640	7.7
JUNE								
03...	.3	12	.34	--	320	--	638	8.5
23...	.3	17	.43	350	278	84	573	7.9
27...	.3	20	.38	--	215	--	420	8.3
JULY								
06...	.4	19	.45	--	300	--	635	7.2
09...	.4	20	.50	--	172	--	374	7.9
17...	.3	21	.43	306	254	75	532	7.5
AUG.								
12...	.3	9.7	.55	--	205	--	451	8.2
14...	--	--	--	--	--	--	450	--
26...	.3	7.5	.38	362	266	82	566	7.3
31...	.6	4.2	.46	--	286	--	616	8.4
SEPT.								
07...	.4	7.5	.60	364	272	80	570	8.2
11...	.3	6.0	.50	--	282	--	631	7.1
19...	.3	2.9	.43	--	174	--	407	7.3

3-3419.1. WABASH RIVER AT HUTSONVILLE, ILL.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT, USUALLY AT 0800)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	618	656	618	476	268	602	605	--	632	575	542	596
2.....	614	640	630	486	272	600	609	590	632	589	530	598
3.....	623	653	627	517	262	634	616	606	638	609	563	594
4.....	610	650	612	559	270	646	622	618	627	610	593	585
5.....	591	655	626	583	283	646	564	624	622	617	587	589
6.....	606	662	625	574	299	649	586	629	626	635	603	603
7.....	583	660	642	565	323	651	558	629	611	617	585	570
8.....	587	664	665	582	348	640	516	632	577	575	608	586
9.....	625	661	669	595	345	650	486	631	568	374	579	600
10.....	625	660	--	602	358	646	467	612	586	399	544	595
11.....	632	686	670	600	367	646	500	620	574	442	543	631
12.....	616	661	685	600	393	644	523	603	586	481	451	622
13.....	624	650	685	593	418	649	531	588	584	516	524	607
14.....	618	659	686	602	447	653	521	583	624	525	482	596
15.....	618	672	697	613	460	643	468	577	567	528	508	593
16.....	610	667	690	640	468	649	546	558	552	527	546	544
17.....	617	642	694	647	459	660	573	568	534	532	572	548
18.....	600	656	694	--	467	659	415	574	447	559	602	532
19.....	608	591	697	--	481	658	396	484	449	578	600	407
20.....	606	602	701	372	508	663	464	579	494	586	583	417
21.....	616	602	707	422	534	656	505	565	543	552	554	470
22.....	622	618	705	437	544	656	531	554	571	484	544	499
23.....	625	632	712	422	560	652	543	597	573	489	548	512
24.....	620	643	689	404	578	636	557	572	604	531	561	522
25.....	642	634	685	424	592	554	553	572	574	538	548	536
26.....	642	638	670	446	580	609	555	583	430	545	566	540
27.....	654	649	670	432	594	592	555	599	420	553	572	554
28.....	667	650	451	444	592	573	516	614	492	478	582	563
29.....	666	645	538	321	--	593	558	625	543	456	590	560
30.....	674	659	478	249	--	589	564	630	558	501	611	587
31.....	667	--	536	245	--	598	--	640	--	527	616	--
AVERAGE	623	647	648	498	431	632	533	595	561	533	562	558

MAXIMUM VALUE = 712 MINIMUM VALUE = 245

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT USUALLY AT 0800)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	22	23	22	19	19	19	18	17	18	17	18	19	19	19	20	21	21	21	21	18	17	17	16	16	15	14	13	13	13	13	13	18
NOVEMBER.	15	16	16	15	16	16	16	14	13	12	11	9	8	9	11	12	12	11	9	8	6	6	7	8	8	8	9	9	9	8	--	11
DECEMBER.	8	7	7	7	7	6	5	4	3	--	3	5	8	7	5	6	6	6	6	7	6	7	6	4	3	3	3	5	3	3	3	5
JANUARY..	1	0	1	1	2	2	1	2	3	3	2	3	2	3	4	5	6	--	--	1	2	2	2	3	2	1	2	2	4	6	4	2
FEBRUARY.	4	3	3	1	2	2	3	2	3	3	2	2	1	2	3	3	2	3	3	4	5	6	6	8	7	7	7	7	--	--	--	4
MARCH....	7	7	8	9	9	10	10	9	9	8	7	7	7	7	8	8	9	9	12	13	13	13	14	14	13	12	10	8	8	8	8	9
APRIL....	8	9	11	12	14	13	14	14	14	16	16	15	14	14	14	16	17	16	15	16	16	17	17	14	13	14	14	16	16	14	--	14
MAY.....	--	16	16	16	19	21	22	22	21	19	17	16	16	16	16	17	18	19	19	19	19	19	18	17	17	18	20	21	23	24	24	19
JUNE.....	24	23	24	22	22	22	22	23	24	23	24	25	26	26	23	22	22	21	20	21	21	22	22	24	23	23	24	26	26	27	--	23
JULY.....	28	28	27	27	28	28	28	28	26	25	24	24	28	27	27	28	29	29	29	29	28	27	27	28	28	28	28	27	26	26	26	27
AUGUST...	26	26	26	26	27	27	27	28	28	27	27	25	26	26	27	27	27	27	27	29	29	27	27	27	27	27	27	28	29	29	29	27
SEPTEMBER	29	28	28	28	28	28	28	27	26	24	24	23	23	24	24	24	24	22	21	20	20	21	21	21	21	20	21	21	21	21	--	24

MAXIMUM VALUE = 29 MINIMUM VALUE = 0

3-6115. OHIO RIVER AT METROPOLIS, ILL.
(International Hydrological Decade River Station)

LOCATION.--Lat 37°08'51", long 88°44'27", Massac County, temperature recorder at gaging station at Paducah and Illinois Railroad bridge at Metropolis, 9.5 miles downstream from Tennessee River, and 37 miles upstream from mouth.
DRAINAGE AREA.--203,000 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: October 1952 to September 1953.
Water temperatures: March 1954 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 31°C July 12-15; minimum, 1°C Jan. 8, 9, 11-16.
EXTREMES, 1954-69.--Water temperatures: Maximum, 31°C Aug. 3-6, 1955, July 12-15, 1969; minimum, freezing point during February 1958, January and February 1963.
REMARKS.--Flow partly regulated by many dams and reservoirs.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER																																
MAXIMUM	24	24	24	24	23	22	22	21	21	21	21	20	20	19	19	19	19	19	19	19	19	--	--	--	--	--	--	--	--	--	--	--
MINIMUM	24	24	24	23	22	22	21	21	21	21	20	20	19	19	19	19	19	19	19	19	19	--	--	--	--	--	--	--	--	--	--	--
NOVEMBER																																
MAXIMUM	--	--	--	15	15	15	15	15	14	14	13	13	12	11	11	11	11	11	11	11	10	9	9	11	11	11	11	11	11	11	--	12
MINIMUM	--	--	--	15	15	15	15	14	14	13	13	12	11	11	11	11	11	11	11	10	9	9	9	9	11	11	11	11	11	10	--	12
DECEMBER																																
MAXIMUM	10	10	9	9	9	9	8	8	7	7	7	6	6	6	6	6	6	5	4	4	4	5	5	5	4	4	4	4	4	4	4	6
MINIMUM	10	9	9	9	9	8	8	7	7	7	6	6	6	6	6	6	5	4	4	4	4	4	5	4	4	4	4	4	4	4	4	6
JANUARY																																
MAXIMUM	4	4	3	3	3	3	2	2	2	2	2	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	3	2	4	4	3
MINIMUM	4	3	3	3	3	2	2	1	1	2	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	2	2	2	4	2
FEBRUARY																																
MAXIMUM	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	3	4	4	4	4	4	5	5	5	5	--	--	--	5
MINIMUM	4	4	4	5	5	5	5	5	5	5	5	5	5	5	4	4	4	3	3	3	4	4	4	4	4	5	5	5	--	--	--	4
MARCH																																
MAXIMUM	5	5	5	5	6	6	6	6	6	6	6	6	6	5	5	5	6	6	7	8	8	8	9	9	9	9	8	8	8	8	8	7
MINIMUM	5	5	5	5	5	6	6	6	6	6	6	6	5	5	5	5	5	6	6	7	8	8	8	9	9	8	8	8	8	8	8	6
APRIL																																
MAXIMUM	8	8	9	10	11	12	13	13	14	14	14	14	14	14	14	14	15	16	16	16	16	16	16	16	16	16	16	16	16	16	--	14
MINIMUM	8	8	8	9	10	11	12	13	13	14	14	14	14	14	14	14	14	15	16	16	16	16	16	16	16	16	16	16	16	16	--	14
MAY																																
MAXIMUM	16	16	16	17	18	19	19	20	20	20	20	20	20	19	19	20	20	20	20	20	20	21	21	21	21	22	22	22	23	23	24	20
MINIMUM	16	16	16	16	17	18	19	19	20	20	20	20	19	19	19	19	20	20	20	20	20	20	21	21	21	21	22	22	22	23	23	20
JUNE																																
MAXIMUM	24	24	24	24	24	24	25	26	26	26	26	26	26	26	26	25	24	24	24	24	24	24	24	24	24	25	26	26	26	27	--	25
MINIMUM	24	24	24	24	24	24	24	25	26	26	26	26	26	26	25	24	24	24	24	24	24	24	24	24	24	25	26	26	26	26	--	25
JULY																																
MAXIMUM	27	27	27	27	28	28	28	29	29	29	30	31	31	31	31	30	29	30	30	30	30	30	30	30	30	30	30	29	29	29		29
MINIMUM	27	27	27	27	27	28	28	28	29	29	29	30	31	31	30	29	29	29	30	30	30	30	30	30	30	30	30	29	29	29	28	29
AUGUST																																
MAXIMUM	28	28	28	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
MINIMUM	28	28	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
SEPTEMBER																																
MAXIMUM	28	28	28	28	28	28	27	27	27	27	26	26	26	26	26	25	25	24	24	24	24	23	23	23	23	23	23	23	23	22	--	25
MINIMUM	28	28	28	28	28	27	27	27	27	26	26	26	26	26	25	25	24	24	24	24	23	23	23	23	23	23	23	23	22	22	--	25

MAXIMUM VALUE = 31 MINIMUM VALUE = 1

3-6125. OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, ILL.

LOCATION.--Lat 37°12'11", long 89°02'30", Pulaski County, about 1,500 ft upstream from dam, lock and dam 53 near Grand Chain, 1.4 miles downstream from Bledsoe Creek, 18.5 miles downstream from gaging station at Metropolis, and 27.7 miles downstream from Tennessee River.
DRAINAGE AREA.--203,100 sq mi (approximately).
PERIOD OF RECORD.--Chemical analyses: October 1954 to September 1969.
Water temperatures: October 1954 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 693 micromhos Nov. 25; minimum daily, 227 micromhos June 25.
EXTREMES, 1954-69.--Specific conductance: Maximum daily, 693 micromhos Nov. 25, 1968; minimum daily, 170 micromhos Feb. 9, 1957.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	MEAN DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
OCT.											
01-31	--	--	--	--	--	--	--	--	--	--	--
10...	76100	430	20	104	0	44	20	.4	1.7	.18	184
19...	76400	110	10	--	--	40	20	.4	2.5	.22	--
26...	61800	110	50	--	--	72	30	.4	4.8	.33	--
NOV.											
01-30	--	--	--	--	--	--	--	--	--	--	--
04...	80700	50	50	--	--	45	26	.4	3.2	.18	--
14...	87700	320	40	106	0	88	37	.4	2.4	.21	272
25...	158000	30	30	--	--	139	70	.6	9.0	.32	--
DEC.											
01...	226000	300	50	--	--	119	48	.4	8.7	.35	--
01-31	--	--	--	--	--	--	--	--	--	--	--
15...	130000	250	40	110	0	78	26	.4	6.7	.32	274
30...	285000	1000	140	--	--	52	18	.3	5.1	.28	--
JAN.											
01-31	--	--	--	--	--	--	--	--	--	--	--
02...	311000	1600	230	80	0	62	20	.1	3.5	.20	204
13...	129000	--	--	--	--	74	24	.2	4.0	.23	--
31...	563000	1200	150	--	--	40	12	.2	3.6	.23	--
FEB.											
01...	594000	430	100	62	0	38	16	.3	2.8	.34	--
01-28	--	--	--	--	--	--	--	--	--	--	--
16...	683000	110	50	88	0	45	16	.2	5.4	.20	198
28...	230000	30	40	124	0	62	22	.4	3.2	.14	--
MAR.											
01-31	--	--	--	--	--	--	--	--	--	--	--
10...	159000	180	80	124	0	66	20	.2	7.1	.12	258
26...	221000	350	70	--	--	60	21	.2	6.6	.12	--
30...	260000	190	80	--	--	76	29	.2	8.0	.14	--
APR.											
01-30	--	--	--	--	--	--	--	--	--	--	--
08...	245000	130	30	--	--	81	32	.2	8.9	.06	--
16...	452000	290	40	88	0	74	20	.2	6.9	.09	238
24...	499000	400	40	--	--	50	14	.2	5.2	.02	--
MAY											
01-31	--	--	--	--	--	--	--	--	--	--	--
02...	285000	120	50	--	--	53	19	.2	7.0	.19	--
15...	205000	140	40	--	--	66	25	.3	6.4	.13	--
26...	284000	220	60	108	0	62	19	.2	6.4	.16	234
JUNE											
01-30	--	--	--	--	--	--	--	--	--	--	--
04...	97500	70	130	118	0	51	15	.3	6.7	.16	198
19...	131000	60	70	--	--	68	21	.4	6.1	.17	--
25...	197000	320	60	--	--	31	9.5	.3	4.9	.24	--
JULY											
01-31	--	--	--	--	--	--	--	--	--	--	--
06...	119000	100	60	--	--	41	12	.2	7.2	.16	--
16...	171000	80	70	88	24	59	24	1.0	11	.14	234
24...	--	--	--	--	--	--	--	--	--	--	--
27...	187000	100	80	--	--	76	30	.5	5.7	.52	--
AUG.											
01-31	--	--	--	--	--	--	--	--	--	--	--
04...	84500	160	130	128	0	62	21	.4	12	.31	258
19...	142000	--	--	--	--	54	20	.4	8.8	.22	--
26...	215000	190	70	--	--	100	40	.5	12	.26	--
SEPT.											
01-30	--	--	--	--	--	--	--	--	--	--	--
04...	78600	140	90	94	0	53	20	.4	4.0	.21	212
04...	--	--	--	--	--	--	--	--	--	--	--
11...	80000	--	--	--	--	71	20	.3	4.7	.40	--
17...	67900	70	80	--	--	42	16	.2	3.3	.17	--

3-6125. OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, ILL.--Continued

EXTREMES, 1954-69--Continued
Water temperatures (1954-62, 1963-68): Maximum, 31°C July 15, 1964; minimum, freezing point on many days during winter period.

REMARKS.--Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) a composite analysis each month for the determination of arsenic (As). Samples for iron and manganese were filtered clear when collected. Records of discharge are given for gaging station at Metropolis (drainage area 203,000 sq mi approximately). Flow partly regulated by many dams and reservoirs.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	DISSOLVED OXYGEN (MG/L)	PERCENT SATURATION	COLIFORM (COLONIES PER 100 ML)	ARSENIC (AS) (UG/L)
OCT.										
01-31	--	--	--	--	--	--	--	--	--	0
10...	129	44	332	7.7	--	--	--	--	--	--
19...	128	--	302	7.9	--	--	--	--	--	--
26...	162	--	418	7.3	--	--	--	--	--	--
NOV.										
01-30	--	--	--	--	--	--	--	--	--	0
04...	128	--	332	7.9	--	--	--	--	--	--
14...	194	107	475	8.0	12	--	--	--	--	--
25...	236	--	693	7.6	--	--	--	--	--	--
DEC.										
01...	202	--	567	8.0	12	--	--	--	--	--
01-31	--	--	--	--	--	--	--	--	--	0
15...	178	88	442	7.9	13	--	--	--	--	--
30...	120	--	294	7.7	5	--	--	--	--	--
JAN.										
01-31	--	--	--	--	--	--	--	--	--	0
02...	130	64	338	8.0	4	--	--	--	--	--
13...	184	--	424	8.2	1	--	--	--	--	--
31...	103	--	238	7.7	6	--	--	--	--	--
FEB.										
01...	102	51	250	7.3	7	--	--	--	--	--
01-28	--	--	--	--	--	--	--	--	--	0
16...	129	57	309	7.5	3	--	--	--	--	--
28...	172	70	401	7.8	4	--	--	--	--	--
MAR.										
01-31	--	--	--	--	--	--	--	--	--	0
10...	172	70	400	7.6	6	--	--	--	--	--
26...	145	--	355	7.3	9	--	--	--	--	--
30...	168	--	423	7.3	7	--	--	--	--	--
APR.										
01-30	--	--	--	--	--	--	--	--	--	0
08...	184	--	465	7.6	13	--	--	--	--	--
16...	152	80	388	7.8	14	--	--	--	--	--
24...	125	--	307	7.4	15	--	--	--	--	--
MAY										
01-31	--	--	--	--	--	--	--	--	--	0
02...	146	--	333	8.1	16	--	--	--	--	--
15...	174	--	411	7.5	18	--	--	--	--	--
26...	170	82	373	7.6	21	--	--	--	--	--
JUNE										
01-30	--	--	--	--	--	--	--	--	--	0
04...	166	70	359	8.1	23	--	--	--	--	--
19...	179	--	403	8.1	24	--	--	--	--	--
25...	98	--	227	7.4	26	--	--	--	--	--
JULY										
01-31	--	--	--	--	--	--	--	--	--	0
06...	114	--	282	8.7	28	--	--	--	--	--
16...	146	74	388	9.0	29	--	--	--	--	--
24...	--	--	520	7.0	31	2.8	4.5	60	750	--
27...	166	--	447	8.3	30	--	--	--	--	--
AUG.										
01-31	--	--	--	--	--	--	--	--	--	0
04...	172	67	402	7.4	27	--	--	--	--	--
19...	138	--	275	8.0	20	--	--	--	--	--
26...	202	--	528	7.5	27	--	--	--	--	--
SEPT.										
01-30	--	--	--	--	--	--	--	--	--	0
04...	134	57	343	7.4	27	--	--	--	--	--
04...	--	--	340	7.3	27	2.3	5.5	69	410	--
11...	154	--	390	7.2	26	--	--	--	--	--
17...	106	--	290	7.7	20	--	--	--	--	--

3-6125. OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, ILL.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 0400 AND 0700)

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	322	348	567	338	250	392	433	--	389	330	389	350
2.....	312	365	496	338	270	378	440	333	346	344	386	360
3.....	341	372	506	335	285	377	439	364	378	334	390	353
4.....	320	332	500	344	287	390	434	369	359	324	402	343
5.....	332	391	471	358	270	398	438	370	367	302	320	330
6.....	332	365	476	368	--	399	446	375	--	282	321	350
7.....	329	341	486	365	272	419	464	366	363	299	344	347
8.....	378	375	462	--	268	417	465	--	359	302	346	366
9.....	363	376	468	384	272	408	451	376	368	315	299	372
10.....	332	375	468	396	276	400	396	363	386	324	313	--
11.....	303	415	454	414	278	410	368	367	346	340	321	390
12.....	308	435	456	414	283	399	395	375	342	358	321	347
13.....	308	462	450	424	292	417	401	373	321	372	392	347
14.....	324	475	445	423	--	414	400	382	321	418	417	328
15.....	313	486	442	422	--	410	396	411	342	404	422	337
16.....	306	486	438	--	309	412	388	407	330	388	420	330
17.....	342	488	380	402	323	415	387	401	349	377	451	290
18.....	307	505	396	279	326	412	367	387	359	399	417	328
19.....	302	548	418	255	335	--	348	363	403	404	275	--
20.....	311	584	412	255	351	394	342	363	--	398	440	353
21.....	319	635	419	320	355	388	348	375	--	378	426	334
22.....	372	613	--	320	370	392	326	--	403	404	456	324
23.....	386	644	356	--	377	415	315	364	359	399	461	347
24.....	409	679	399	297	385	414	307	364	366	408	438	310
25.....	--	693	427	297	386	360	309	370	227	440	444	305
26.....	418	645	442	317	388	355	307	373	275	436	528	305
27.....	409	585	442	317	396	385	312	374	--	447	--	316
28.....	355	553	371	317	401	403	315	372	--	444	459	347
29.....	364	455	306	292	--	402	332	--	318	445	436	340
30.....	357	497	294	--	--	423	338	401	308	424	346	350
31.....	340	--	316	238	--	413	--	397	--	406	334	--
AVERAGE	340	484	432	341	320	400	380	375	347	375	390	339

MAXIMUM VALUE = 693 MINIMUM VALUE = 227

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(ONCE-DAILY MEASUREMENT BETWEEN 0400 AND 0700)

MONTH	DAY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AVERAGE
OCTOBER..	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NOVEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DECEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6	8	--	6	6	4	4	6	7	5	5	5	--
JANUARY..	4	4	4	2	2	3	3	--	3	2	1	1	1	1	1	--	4	5	1	1	2	1	--	4	3	2	1	2	2	--	6	2
FEBRUARY.	7	6	6	6	6	--	7	7	6	6	6	5	4	--	--	3	4	3	3	4	4	4	4	4	4	4	4	4	--	--	--	5
MARCH....	4	4	5	5	5	5	4	5	4	6	6	6	5	6	6	6	6	6	--	9	9	9	11	11	10	9	9	9	9	7	8	7
APRIL....	9	12	10	11	12	12	12	13	14	14	14	12	14	14	14	14	15	17	14	14	15	15	16	15	17	16	16	16	16	15	--	14
MAY.....	--	16	17	17	17	17	17	--	18	18	18	18	18	18	18	19	19	19	19	19	19	--	19	19	21	21	22	21	--	22	23	19
JUNE.....	24	24	22	23	23	--	23	25	26	24	25	26	26	26	26	26	24	24	24	--	--	25	25	26	26	26	--	--	26	27	--	25
JULY.....	28	27	27	27	27	28	28	28	28	29	29	29	29	29	28	29	29	29	29	29	29	29	29	30	30	29	30	29	28	28	28	29
AUGUST...	29	28	27	27	27	27	28	28	28	27	27	26	26	26	28	27	21	19	20	27	27	27	26	27	27	27	--	27	27	27	28	26
SEPTEMBER	27	27	27	27	23	23	27	26	26	--	26	--	--	--	--	--	--	24	--	23	23	21	23	23	23	22	22	23	22	21	--	--

STREAMS TRIBUTARY TO LAKE ERIE

4-1853. TIFFIN RIVER AT EVANSPORT, OHIO

LOCATION.--Lat 41°25'38", long 84°23'22", Defiance County, on left bank at upstream side of bridge on State Highway 191, 0.4 mile east of center of Evansport, 1,300 ft downstream from Brush Creek, and 6.5 miles downstream from Beaver Creek.
DRAINAGE AREA.--541 sq mi.
PERIOD OF RECORD.--Chemical analyses: June 1968 to September 1969.
Water temperatures: June 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since June 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, partial analyses were made to further define the quality of water. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.											
03...	1230	322	4	78	30	.4	5.4	424	342	71	696
16...	1430	330	0	76	38	.5	2.2	424	340	69	747
NOV.											
15...	0930	272	0	76	34	.4	2.0	384	305	82	699
JAN.											
24...	1200	140	0	51	16	.3	14	262	200	86	401
MAR.											
12...	1530	292	0	82	24	.4	5.9	372	332	92	670
MAY											
16...	1230	230	14	75	23	.3	15	400	314	102	588
JUNE											
27...	1000	198	8	76	31	.4	12	372	274	98	693
AUG.											
29...	1020	292	14	75	33	.5	3.5	408	350	87	697

STREAMS TRIBUTARY TO LAKE ERIE

4-1853. TIFFIN RIVER AT EVANSPORT, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	800	750	500	440	---	---	240	200	---	---
2	---	---	780	740	550	490	---	---	250	200	---	---
3	710	650	790	750	590	540	---	---	---	---	---	---
4	720	640	770	740	630	580	---	---	---	---	---	---
5	730	700	780	760	650	610	---	---	---	---	---	---
6	740	700	790	740	650	630	---	---	---	---	---	---
7	750	720	790	740	---	---	---	---	---	---	---	---
8	740	700	780	760	---	---	---	---	---	---	---	---
9	750	680	790	750	---	---	---	---	---	---	---	---
10	750	700	790	750	---	---	---	---	---	---	---	---
11	740	680	880	760	---	---	---	---	---	---	---	---
12	760	710	800	760	---	---	---	---	---	---	---	---
13	760	700	770	740	---	---	---	---	---	---	680	630
14	760	720	750	740	---	---	---	---	---	---	670	640
15	720	670	760	680	---	---	---	---	---	---	680	620
16	720	680	740	670	---	---	---	---	---	---	660	630
17	720	660	720	650	---	---	---	---	---	---	670	610
18	730	690	710	640	---	---	---	---	---	---	670	610
19	740	690	650	560	---	---	---	---	---	---	---	---
20	750	720	590	550	---	---	---	---	---	---	---	---
21	760	740	600	550	---	---	---	---	---	---	---	---
22	780	740	620	590	---	---	---	---	---	---	---	---
23	800	750	660	610	---	---	---	---	---	---	---	---
24	800	760	660	620	---	---	---	---	---	---	---	---
25	800	760	700	640	---	---	420	350	---	---	---	---
26	800	740	690	650	---	---	400	360	---	---	---	---
27	800	760	700	650	---	---	400	360	---	---	---	---
28	800	750	680	620	---	---	450	400	---	---	---	---
29	780	760	630	460	---	---	450	320	---	---	---	---
30	790	740	510	430	---	---	320	190	---	---	---	---
31	800	750	---	---	---	---	240	190	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	610	440	670	610	830	800	---	---
2	---	---	---	---	560	480	710	660	860	830	---	---
3	---	---	---	---	600	530	700	670	870	850	---	---
4	---	---	---	---	630	600	700	480	870	850	---	---
5	---	---	---	---	640	580	480	130	900	850	---	---
6	---	---	---	---	630	580	200	130	870	850	---	---
7	---	---	---	---	640	610	290	200	860	840	---	---
8	---	---	---	---	640	610	370	290	850	830	---	---
9	---	---	---	---	620	600	440	370	860	820	---	---
10	---	---	---	---	640	600	510	440	840	820	---	---
11	---	---	---	---	620	550	580	500	850	830	---	---
12	---	---	---	---	570	540	590	540	850	820	---	---
13	---	---	---	---	560	540	630	540	860	830	---	---
14	---	---	---	---	590	560	630	500	840	820	---	---
15	---	---	---	---	610	520	620	530	840	820	---	---
16	---	---	---	---	620	560	680	620	840	810	---	---
17	---	---	570	540	690	610	710	640	840	810	---	---
18	---	---	580	430	680	670	650	220	860	810	---	---
19	---	---	470	400	690	650	340	120	820	770	---	---
20	---	---	470	420	710	650	470	340	780	670	---	---
21	---	---	510	450	690	650	570	320	730	670	---	---
22	---	---	570	510	690	620	500	430	770	730	---	---
23	---	---	600	560	640	570	---	---	790	770	---	---
24	---	---	620	590	660	630	---	---	810	780	---	---
25	---	---	630	600	670	610	---	---	810	780	---	---
26	---	---	630	610	650	620	---	---	800	750	---	---
27	---	---	650	580	630	590	---	---	820	590	---	---
28	---	---	630	590	620	440	---	---	---	---	---	---
29	---	---	620	580	470	410	640	460	---	---	---	---
30	---	---	640	590	610	420	720	640	---	---	---	---
31	---	---	640	580	---	---	800	720	---	---	---	---

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4-1853. TIFFIN RIVER AT EVANSPORT, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	8.1	8.0	7.9	7.8	---	---	8.0	7.8	---	---
2	---	---	8.1	8.1	8.0	7.8	---	---	8.0	7.8	---	---
3	8.2	8.2	8.1	8.0	8.0	7.9	---	---	---	---	---	---
4	8.3	8.2	8.1	8.0	8.1	8.0	---	---	---	---	---	---
5	8.3	8.2	8.1	8.0	8.4	8.1	---	---	---	---	---	---
6	8.3	8.2	8.1	8.0	8.4	8.2	---	---	---	---	---	---
7	8.3	8.2	8.0	7.9	---	---	---	---	---	---	---	---
8	8.3	8.2	8.0	7.9	---	---	---	---	---	---	---	---
9	8.3	8.2	8.1	7.9	---	---	---	---	---	---	---	---
10	8.3	8.2	8.1	8.0	---	---	---	---	---	---	---	---
11	8.3	8.2	8.0	7.4	---	---	---	---	---	---	---	---
12	8.3	8.2	8.1	8.0	---	---	---	---	---	---	---	---
13	8.3	8.2	8.1	8.0	---	---	---	---	---	---	8.5	8.4
14	8.3	8.1	8.2	8.1	---	---	---	---	---	---	8.5	8.4
15	8.3	8.1	8.5	7.9	---	---	---	---	---	---	8.5	8.5
16	8.2	8.1	8.5	7.8	---	---	---	---	---	---	9.1	8.5
17	8.2	8.1	8.3	7.8	---	---	---	---	---	---	9.1	8.5
18	8.1	8.0	8.3	8.1	---	---	---	---	---	---	9.1	8.5
19	8.2	8.0	8.4	8.2	---	---	---	---	---	---	---	---
20	8.2	8.0	8.4	8.1	---	---	---	---	---	---	---	---
21	8.2	8.1	8.5	8.1	---	---	---	---	---	---	---	---
22	8.2	8.1	8.2	8.2	---	---	---	---	---	---	---	---
23	8.2	8.1	8.3	7.9	---	---	---	---	---	---	---	---
24	8.2	8.1	8.4	8.1	---	---	---	---	---	---	---	---
25	8.2	8.1	8.4	8.2	---	---	7.7	7.6	---	---	---	---
26	8.2	8.1	8.4	8.2	---	---	7.7	7.6	---	---	---	---
27	8.2	8.1	8.3	7.9	---	---	7.7	7.7	---	---	---	---
28	8.2	8.2	8.2	7.5	---	---	7.8	7.6	---	---	---	---
29	8.3	8.2	8.1	7.9	---	---	7.9	7.8	---	---	---	---
30	8.4	8.2	8.0	7.8	---	---	8.1	7.9	---	---	---	---
31	8.2	8.1	---	---	---	---	8.0	7.8	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	7.8	7.4	---	---	---	---	---	---
2	---	---	---	---	7.6	7.5	---	---	---	---	---	---
3	---	---	---	---	7.7	7.5	---	---	---	---	---	---
4	---	---	---	---	7.8	7.7	---	---	---	---	---	---
5	---	---	---	---	7.8	7.7	---	---	---	---	---	---
6	---	---	---	---	7.8	7.7	---	---	---	---	---	---
7	---	---	---	---	7.9	7.8	---	---	---	---	---	---
8	---	---	---	---	7.9	7.8	---	---	---	---	---	---
9	---	---	---	---	7.9	7.8	---	---	---	---	---	---
10	---	---	---	---	8.1	7.9	---	---	---	---	---	---
11	---	---	---	---	8.1	7.9	---	---	---	---	---	---
12	---	---	---	---	8.0	7.9	---	---	---	---	---	---
13	---	---	---	---	7.9	7.8	---	---	---	---	---	---
14	---	---	---	---	7.8	7.7	---	---	---	---	---	---
15	---	---	---	---	7.8	7.7	---	---	---	---	---	---
16	---	---	---	---	7.8	7.7	---	---	---	---	---	---
17	---	---	7.7	7.6	8.0	7.8	---	---	---	---	---	---
18	---	---	7.6	7.4	8.0	7.9	---	---	---	---	---	---
19	---	---	7.5	7.4	8.0	7.9	---	---	---	---	---	---
20	---	---	7.5	7.4	8.0	7.9	---	---	---	---	---	---
21	---	---	7.7	7.5	8.1	8.0	---	---	---	---	---	---
22	---	---	7.7	7.7	8.1	8.0	---	---	---	---	---	---
23	---	---	7.7	7.7	8.1	7.9	---	---	---	---	---	---
24	---	---	7.7	7.7	8.1	8.0	---	---	---	---	---	---
25	---	---	7.7	7.7	8.1	8.0	---	---	---	---	---	---
26	---	---	7.7	7.7	8.1	7.9	---	---	---	---	---	---
27	---	---	7.8	7.7	---	---	---	---	---	---	---	---
28	---	---	7.8	7.6	---	---	---	---	---	---	---	---
29	---	---	7.8	7.6	---	---	---	---	---	---	---	---
30	---	---	7.9	7.7	---	---	---	---	---	---	---	---
31	---	---	7.8	7.7	---	---	---	---	---	---	---	---

4-1853. TIFFIN RIVER AT EVANSPORT, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	2.0	2.0	---	---
2	---	---	---	---	---	---	---	---	2.0	2.0	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	3.0	2.0
14	---	---	---	---	---	---	---	---	---	---	3.0	2.0
15	---	---	---	---	---	---	---	---	---	---	3.0	2.0
16	---	---	---	---	---	---	---	---	---	---	4.0	2.0
17	---	---	---	---	---	---	---	---	---	---	4.0	3.0
18	---	---	---	---	---	---	---	---	---	---	6.0	4.0
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	1.0	0.0	---	---	---	---
26	---	---	---	---	---	---	1.0	0.0	---	---	---	---
27	---	---	---	---	---	---	1.0	1.0	---	---	---	---
28	---	---	---	---	---	---	1.0	1.0	---	---	---	---
29	---	---	---	---	---	---	2.0	1.0	---	---	---	---
30	---	---	---	---	---	---	2.0	2.0	---	---	---	---
31	---	---	---	---	---	---	2.0	2.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	20.0	19.0	23.0	22.0	25.0	24.0	---	---
2	---	---	---	---	19.0	18.0	24.0	23.0	25.0	24.0	---	---
3	---	---	---	---	18.0	18.0	24.0	23.0	26.0	24.0	---	---
4	---	---	---	---	18.0	17.0	24.0	23.0	26.0	24.0	---	---
5	---	---	---	---	18.0	17.0	24.0	23.0	26.0	24.0	---	---
6	---	---	---	---	20.0	18.0	24.0	23.0	26.0	25.0	---	---
7	---	---	---	---	20.0	20.0	23.0	22.0	26.0	25.0	---	---
8	---	---	---	---	20.0	20.0	22.0	22.0	26.0	25.0	---	---
9	---	---	---	---	20.0	19.0	23.0	22.0	26.0	25.0	---	---
10	---	---	---	---	20.0	19.0	24.0	23.0	25.0	24.0	---	---
11	---	---	---	---	21.0	20.0	24.0	23.0	25.0	24.0	---	---
12	---	---	---	---	21.0	20.0	24.0	23.0	26.0	24.0	---	---
13	---	---	---	---	21.0	21.0	25.0	23.0	26.0	24.0	---	---
14	---	---	---	---	21.0	20.0	25.0	24.0	26.0	25.0	---	---
15	---	---	---	---	20.0	20.0	24.0	24.0	26.0	25.0	---	---
16	---	---	---	---	21.0	19.0	24.0	23.0	26.0	26.0	---	---
17	---	---	17.0	16.0	20.0	19.0	26.0	24.0	26.0	25.0	---	---
18	---	---	17.0	16.0	20.0	20.0	25.0	24.0	27.0	25.0	---	---
19	---	---	16.0	16.0	21.0	20.0	25.0	24.0	27.0	26.0	---	---
20	---	---	16.0	16.0	21.0	21.0	25.0	24.0	26.0	25.0	---	---
21	---	---	16.0	16.0	21.0	20.0	25.0	24.0	25.0	24.0	---	---
22	---	---	16.0	16.0	21.0	20.0	25.0	24.0	25.0	24.0	---	---
23	---	---	17.0	16.0	21.0	20.0	---	---	26.0	24.0	---	---
24	---	---	17.0	16.0	21.0	21.0	---	---	26.0	24.0	---	---
25	---	---	17.0	16.0	22.0	20.0	---	---	26.0	25.0	---	---
26	---	---	17.0	16.0	23.0	21.0	---	---	26.0	25.0	---	---
27	---	---	18.0	17.0	24.0	22.0	---	---	26.0	24.0	---	---
28	---	---	19.0	17.0	24.0	23.0	---	---	---	---	---	---
29	---	---	19.0	18.0	23.0	22.0	24.0	24.0	---	---	---	---
30	---	---	20.0	19.0	23.0	23.0	25.0	24.0	---	---	---	---
31	---	---	20.0	19.0	---	---	25.0	24.0	---	---	---	---

4-1856. MAUMEE RIVER AT DEFIANCE, OHIO

LOCATION.--Lat 41°16'43", long 84°23'07", Defiance County, at waterworks on right bank at Defiance, about 300 ft upstream from Tiffin River, 1.8 miles upstream from Auglaize River, and 6 miles upstream from gaging station near Defiance.
DRAINAGE AREA.--3,094 sq mi (includes Tiffin River).
PERIOD OF RECORD.--Chemical analyses: January 1966 to September 1969.
Water temperatures: January 1966 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 890 micromhos Oct. 28; minimum, 210 micromhos Jan. 30.
Water temperatures: Maximum, 29°C July 17-19; minimum, freezing point on many days during December to February.
EXTREMES, 1966-69.--Specific conductance: Maximum, 1,030 micromhos Oct. 14, 1967; minimum, 210 micromhos Jan. 30, 1969.
Dissolved oxygen (1966-68): Maximum, 15.0 mg/l or greater on many days during 1966 to 1968; minimum, 0.2 mg/l Aug. 23, 1966.
Water temperatures: Maximum, 32°C July 3, 1966; minimum, freezing point on many days during 1966 to 1969.
REMARKS.--Continuous water quality recorder operated since January 1966. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.												
02...	0800	208	0	89	28	.5	10	398	275	104	610	7.8
30...	1100	240	20	120	43	.7	13	518	360	130	813	8.5
NOV.												
13...	0800	284	0	122	49	.7	9.9	528	350	117	843	7.5
25...	0800	180	0	92	26	.3	26	420	280	132	598	7.5
DEC.												
13...	0800	268	0	110	30	.4	17	498	355	135	730	8.2
30...	0800	108	0	40	12	.2	11	160	140	52	271	7.8
JAN.												
03...	0800	124	0	54	16	.2	18	230	176	74	393	7.4
31...	0800	80	0	23	8.0	.2	9.6	154	96	30	225	7.3
FEB.												
03...	0800	88	0	30	8.0	.2	14	180	115	43	264	7.6
28...	0730	260	0	104	26	.3	12	442	330	117	709	7.6
MAR.												
24...	0745	264	0	113	38	.6	13	510	392	175	745	7.7
28...	0730	164	0	73	22	.3	31	362	242	108	528	7.4
APR.												
18...	0730	222	0	88	22	.4	13	380	290	108	600	7.5
21...	0745	134	0	43	10	.2	24	224	186	76	381	7.3
MAY												
09...	0755	252	0	85	21	.4	7.6	376	294	87	611	7.6
26...	0800	158	4	57	14	.3	23	316	220	84	458	8.4
JUNE												
18...	0755	172	0	55	16	.3	26	362	238	97	496	8.0
30...	1000	236	0	85	23	.3	27	434	306	112	701	7.4
JULY												
09...	0830	166	0	51	16	.5	22	304	210	74	443	8.2
28...	0900	288	0	90	31	.8	8.2	458	330	94	708	7.4
AUG.												
04...	0745	210	6	68	21	.4	10	342	268	86	558	8.3
27...	0740	266	10	116	41	.6	6.1	466	366	131	767	8.5
SEPT.												
05...	0755	300	0	119	46	.8	2.4	506	346	100	818	8.0
29...	0750	166	0	86	32	.6	16	342	228	92	566	7.9

4-1856. MAUMEE RIVER AT DEFIANCE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	600	560	830	820	630	540	---	---	240	230	710	690
2	620	600	840	820	620	510	---	---	250	230	700	690
3	650	600	840	830	520	510	---	---	270	250	700	700
4	640	630	850	820	560	510	---	---	360	270	710	700
5	640	630	850	820	---	610	---	---	330	290	700	690
6	680	640	830	810	---	---	---	---	350	320	710	700
7	700	680	880	820	---	---	---	---	390	350	710	690
8	700	690	840	820	---	---	---	---	430	380	700	690
9	710	680	850	820	---	---	---	---	470	420	710	690
10	680	670	840	830	---	---	---	---	500	460	710	700
11	710	680	850	830	---	---	---	---	520	500	710	700
12	710	700	860	840	---	---	---	---	550	520	720	710
13	740	710	850	810	---	---	---	---	550	540	700	690
14	750	740	810	760	---	---	---	---	570	550	710	700
15	760	750	760	730	---	---	---	---	610	570	710	700
16	780	750	770	720	---	---	---	---	630	600	720	710
17	790	780	790	710	---	---	---	---	630	620	740	720
18	780	760	720	630	---	---	---	---	640	620	780	740
19	770	750	670	610	---	---	---	---	660	640	760	710
20	780	760	700	640	---	---	---	---	700	650	720	700
21	790	780	640	600	---	---	---	---	690	630	720	700
22	810	780	610	600	---	---	---	---	690	680	720	700
23	800	790	600	590	---	---	360	340	690	670	710	700
24	800	790	600	590	---	---	370	360	700	670	750	690
25	800	790	610	590	---	---	390	360	710	700	690	680
26	800	790	620	610	---	---	390	370	730	700	580	550
27	860	800	630	620	---	---	420	380	710	700	560	530
28	890	760	630	560	---	---	530	390	720	710	540	530
29	820	810	620	500	---	---	400	260	---	---	560	540
30	820	810	540	460	---	---	260	210	---	---	580	560
31	830	820	---	---	---	---	230	220	---	---	570	560

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	590	570	580	570	640	570	660	570	610	560	790	770
2	590	580	610	580	620	560	570	560	610	550	800	790
3	590	580	620	600	650	590	610	570	560	550	820	790
4	600	590	610	600	650	620	620	600	570	550	830	810
5	600	550	610	590	620	600	630	570	570	570	830	800
6	550	520	620	590	630	600	570	520	580	570	830	790
7	540	400	600	590	670	630	550	530	590	580	830	750
8	480	400	620	580	680	650	590	450	590	560	800	790
9	520	480	620	610	670	650	510	440	580	580	810	790
10	540	520	630	550	700	670	550	500	620	580	790	770
11	540	530	---	---	670	620	540	490	630	620	830	790
12	550	540	---	---	620	540	510	490	630	620	830	740
13	560	540	---	---	630	570	560	510	630	610	740	680
14	570	560	---	---	660	560	590	560	610	590	710	700
15	620	570	---	---	570	490	590	580	670	590	710	700
16	630	600	510	500	530	450	590	580	690	670	700	670
17	630	600	520	500	490	430	620	590	700	690	700	670
18	630	450	520	480	540	490	630	530	710	700	740	680
19	460	410	540	500	540	490	630	610	710	690	810	740
20	440	400	500	440	520	440	650	610	720	680	800	680
21	400	370	520	460	600	480	660	650	710	680	750	660
22	430	390	530	520	650	600	680	650	720	710	730	690
23	440	420	540	530	640	590	680	630	740	720	800	710
24	450	440	540	470	630	580	630	560	740	730	740	590
25	470	450	470	440	660	630	680	620	750	740	590	570
26	490	460	480	440	660	640	680	660	770	750	610	590
27	510	490	520	480	660	530	680	630	770	760	590	540
28	540	510	560	520	610	550	730	480	770	750	5[illegible]0	550
29	560	540	590	560	700	610	520	470	780	770	600	560
30	570	550	600	590	700	660	540	500	790	780	600	600
31	---	---	620	570	---	---	560	510	780	670	---	---

4-1856. MAUMEE RIVER AT DEFIANCE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.2	7.5	9.1	8.0	7.2	7.0	---	---	9.0	8.8	10.6	10.2
2	9.5	6.9	9.4	7.6	7.3	7.2	---	---	8.8	8.7	10.8	10.3
3	9.7	7.1	8.6	7.2	7.4	7.2	---	---	9.1	8.8	10.9	10.4
4	11.5	8.6	8.2	7.6	7.2	6.8	---	---	10.2	7.0	11.1	10.4
5	12.1	9.0	10.9	7.9	7.3	6.8	---	---	12.2	6.8	11.2	10.6
6	10.8	7.8	11.0	9.3	7.4	7.2	---	---	11.8	10.1	11.2	10.3
7	8.7	7.0	10.3	9.4	7.5	7.4	---	---	10.2	10.1	11.5	10.6
8	10.9	8.0	10.1	9.1	7.6	7.5	---	---	10.3	10.0	11.6	10.9
9	11.2	9.2	10.1	9.2	7.7	7.6	---	---	10.2	10.0	12.0	10.9
10	11.4	9.2	9.7	8.8	7.6	7.1	---	---	10.1	9.9	12.5	11.6
11	12.9	10.0	9.7	9.2	7.5	7.3	---	---	10.0	9.7	12.5	11.6
12	13.3	11.0	9.2	8.9	7.3	6.9	---	---	9.8	9.7	13.1	12.2
13	12.9	10.2	10.0	9.0	7.1	6.9	---	---	10.0	9.8	14.0	12.3
14	13.9	11.1	10.6	8.7	---	---	---	---	10.4	10.0	14.0	12.5
15	13.1	10.7	9.7	8.3	---	---	---	---	10.5	10.3	14.6	12.7
16	11.5	8.7	8.3	7.7	---	---	---	---	10.4	10.1	15.0	13.0
17	10.6	7.9	7.7	6.4	---	---	---	---	10.2	10.1	14.8	12.9
18	9.3	6.7	6.4	5.7	---	---	---	---	10.2	9.7	15.0	12.1
19	9.1	6.0	7.0	6.2	---	---	---	---	9.8	9.6	15.0	13.2
20	10.6	7.1	7.4	6.8	---	---	---	---	9.7	9.6	15.0	12.8
21	12.0	9.5	7.6	7.4	---	---	---	---	9.8	9.6	15.0	10.8
22	12.2	10.7	7.9	7.5	---	---	---	---	9.7	9.6	15.0	12.7
23	12.9	9.7	7.6	7.4	---	---	11.9	10.5	9.7	9.5	15.0	12.7
24	12.4	10.8	7.4	7.2	---	---	10.8	10.2	9.7	9.5	14.8	9.8
25	12.1	10.2	7.4	7.2	---	---	10.9	9.5	9.8	9.6	9.8	8.3
26	11.7	10.2	7.3	7.0	---	---	11.1	8.1	10.1	9.8	8.7	7.3
27	11.3	9.5	7.2	7.1	---	---	10.8	8.3	10.4	9.9	9.2	8.7
28	10.7	9.2	7.1	6.5	---	---	11.0	9.9	10.4	10.0	9.3	9.0
29	9.8	8.3	7.2	6.7	---	---	11.4	9.9	---	---	9.4	9.3
30	9.2	8.3	7.0	6.3	---	---	9.9	9.3	---	---	9.6	9.4
31	9.1	7.9	---	---	---	---	9.3	8.9	---	---	9.6	9.4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.4	9.1	7.5	6.4	---	---	---	---	---	---	5.5	3.5
2	9.2	8.7	7.8	7.1	---	---	---	---	---	---	4.0	2.4
3	9.0	8.7	7.7	6.8	---	---	---	---	---	---	5.0	2.1
4	8.7	8.3	8.1	6.7	---	---	---	---	---	---	6.5	3.4
5	8.4	8.1	8.2	6.6	---	---	---	---	---	---	6.2	4.4
6	8.8	8.2	7.6	6.4	---	---	---	---	---	---	5.5	3.4
7	8.3	7.8	7.2	5.9	---	---	---	---	---	---	4.8	2.9
8	8.3	8.0	6.4	5.5	---	---	---	---	---	---	6.1	2.7
9	8.2	7.8	7.0	5.2	---	---	---	---	---	---	6.9	3.9
10	7.8	7.6	6.4	5.8	---	---	---	---	---	---	9.5	5.5
11	7.6	7.5	---	---	---	---	---	---	---	---	11.0	7.7
12	7.5	7.3	---	---	---	---	---	---	---	---	10.5	7.4
13	7.4	7.0	---	---	---	---	---	---	---	---	10.3	9.0
14	7.0	6.7	---	---	---	---	---	---	---	---	9.7	7.7
15	7.8	7.5	---	---	---	---	---	---	---	---	7.8	5.6
16	8.2	7.3	7.2	2.3	---	---	---	---	---	---	5.7	1.7
17	8.6	7.2	3.3	1.6	---	---	---	---	---	---	3.0	1.3
18	8.1	7.2	2.0	0.9	---	---	---	---	---	---	6.8	2.6
19	8.8	8.1	1.5	1.0	---	---	---	---	---	---	6.0	3.9
20	8.6	8.1	1.2	0.7	---	---	---	---	---	---	3.9	2.7
21	8.9	8.6	---	---	---	---	---	---	---	---	4.0	2.9
22	8.7	8.5	---	---	---	---	---	---	---	---	6.8	3.5
23	8.6	8.5	---	---	---	---	---	---	---	---	7.7	5.5
24	8.6	8.5	---	---	---	---	---	---	---	---	5.9	3.8
25	8.5	8.4	---	---	---	---	---	---	---	---	4.3	3.4
26	8.5	7.9	---	---	---	---	---	---	---	---	5.2	3.6
27	7.9	7.2	---	---	---	---	---	---	---	---	4.2	3.7
28	7.2	6.9	---	---	---	---	---	---	---	---	4.8	3.7
29	7.1	6.8	---	---	---	---	---	---	6.5	4.7	5.5	4.2
30	7.2	6.6	---	---	---	---	---	---	7.9	3.9	5.8	4.3
31	---	---	---	---	---	---	---	---	6.4	4.8	---	---

4-1856. MAUMEE RIVER AT DEFIANCE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	17.0	12.0	9.0	7.0	6.0	--	--	1.0	1.0	3.0	2.0
2	19.0	18.0	12.0	11.0	6.0	6.0	--	--	1.0	1.0	4.0	2.0
3	19.0	18.0	12.0	11.0	6.0	6.0	--	--	1.0	0.0	4.0	3.0
4	18.0	15.0	12.0	11.0	6.0	6.0	--	--	1.0	0.0	4.0	3.0
5	15.0	13.0	12.0	11.0	6.0	4.0	--	--	1.0	0.0	5.0	3.0
6	14.0	13.0	12.0	11.0	4.0	3.0	--	--	1.0	0.0	5.0	3.0
7	13.0	13.0	11.0	9.0	3.0	2.0	--	--	1.0	0.0	5.0	4.0
8	14.0	13.0	9.0	8.0	2.0	2.0	--	--	1.0	0.0	4.0	4.0
9	16.0	14.0	8.0	7.0	2.0	1.0	--	--	1.0	1.0	4.0	4.0
10	16.0	15.0	7.0	6.0	2.0	1.0	--	--	1.0	0.0	4.0	3.0
11	16.0	14.0	7.0	6.0	2.0	1.0	--	--	1.0	1.0	3.0	1.0
12	16.0	14.0	6.0	6.0	1.0	0.0	--	--	1.0	1.0	2.0	1.0
13	16.0	15.0	6.0	5.0	2.0	1.0	--	--	1.0	0.0	3.0	1.0
14	18.0	16.0	6.0	5.0	--	1.0	--	--	0.0	0.0	3.0	2.0
15	19.0	18.0	7.0	6.0	--	1.0	--	--	0.0	0.0	4.0	2.0
16	19.0	18.0	7.0	7.0	--	1.0	--	--	0.0	0.0	5.0	3.0
17	20.0	19.0	8.0	7.0	--	1.0	--	--	0.0	0.0	6.0	3.0
18	20.0	18.0	8.0	7.0	--	1.0	--	--	0.0	0.0	8.0	5.0
19	18.0	16.0	7.0	6.0	--	1.0	--	--	1.0	0.0	9.0	7.0
20	17.0	15.0	6.0	5.0	--	1.0	--	--	2.0	1.0	10.0	8.0
21	15.0	14.0	5.0	4.0	--	1.0	--	--	2.0	1.0	10.0	8.0
22	14.0	13.0	5.0	4.0	--	1.0	--	--	3.0	2.0	9.0	7.0
23	13.0	12.0	6.0	4.0	--	1.0	1.0	0.0	3.0	2.0	9.0	7.0
24	12.0	11.0	6.0	6.0	--	1.0	1.0	0.0	3.0	3.0	9.0	9.0
25	11.0	11.0	6.0	6.0	--	1.0	1.0	0.0	3.0	3.0	9.0	6.0
26	11.0	9.0	7.0	6.0	--	1.0	0.0	0.0	3.0	2.0	6.0	6.0
27	10.0	9.0	7.0	6.0	--	1.0	0.0	0.0	3.0	2.0	6.0	5.0
28	10.0	9.0	7.0	6.0	--	1.0	0.0	0.0	3.0	2.0	6.0	5.0
29	9.0	8.0	7.0	7.0	--	1.0	0.0	0.0	--	--	6.0	4.0
30	8.0	7.0	7.0	7.0	--	1.0	2.0	0.0	--	--	6.0	5.0
31	9.0	7.0	--	--	--	--	2.0	1.0	--	--	6.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.0	15.0	13.0	24.0	23.0	26.0	24.0	26.0	24.0	27.0	26.0
2	7.0	6.0	17.0	14.0	24.0	21.0	26.0	24.0	26.0	24.0	26.0	26.0
3	8.0	6.0	18.0	16.0	21.0	18.0	27.0	24.0	27.0	24.0	26.0	24.0
4	8.0	7.0	19.0	17.0	20.0	17.0	26.0	25.0	26.0	24.0	26.0	24.0
5	9.0	8.0	20.0	17.0	21.0	18.0	27.0	26.0	27.0	24.0	26.0	24.0
6	9.0	9.0	20.0	18.0	22.0	19.0	26.0	23.0	27.0	25.0	27.0	25.0
7	11.0	9.0	21.0	19.0	22.0	21.0	23.0	22.0	27.0	26.0	26.0	24.0
8	11.0	10.0	21.0	19.0	21.0	19.0	22.0	20.0	27.0	25.0	24.0	23.0
9	12.0	11.0	19.0	17.0	21.0	18.0	21.0	19.0	27.0	25.0	23.0	21.0
10	12.0	11.0	17.0	13.0	21.0	19.0	23.0	21.0	26.0	24.0	21.0	19.0
11	12.0	11.0	--	--	23.0	20.0	24.0	22.0	25.0	23.0	21.0	19.0
12	13.0	12.0	--	--	23.0	22.0	25.0	23.0	26.0	23.0	21.0	19.0
13	13.0	12.0	--	--	23.0	22.0	26.0	24.0	26.0	24.0	22.0	20.0
14	14.0	12.0	--	--	22.0	19.0	27.0	25.0	27.0	25.0	23.0	21.0
15	14.0	13.0	--	--	19.0	18.0	28.0	26.0	27.0	26.0	23.0	21.0
16	15.0	13.0	17.0	15.0	18.0	17.0	28.0	26.0	27.0	26.0	23.0	22.0
17	17.0	14.0	18.0	17.0	19.0	17.0	29.0	27.0	27.0	26.0	22.0	21.0
18	16.0	11.0	18.0	17.0	19.0	18.0	29.0	28.0	27.0	25.0	21.0	19.0
19	11.0	9.0	17.0	17.0	19.0	18.0	29.0	27.0	28.0	26.0	19.0	18.0
20	11.0	10.0	17.0	16.0	21.0	19.0	27.0	26.0	27.0	26.0	19.0	18.0
21	11.0	10.0	17.0	16.0	21.0	19.0	28.0	26.0	26.0	24.0	19.0	18.0
22	11.0	10.0	17.0	16.0	21.0	19.0	28.0	27.0	25.0	23.0	21.0	18.0
23	10.0	9.0	17.0	15.0	20.0	18.0	28.0	27.0	27.0	24.0	21.0	19.0
24	11.0	9.0	18.0	17.0	20.0	19.0	28.0	27.0	28.0	25.0	21.0	19.0
25	12.0	11.0	18.0	17.0	22.0	19.0	28.0	26.0	27.0	26.0	19.0	18.0
26	13.0	11.0	18.0	16.0	24.0	22.0	28.0	26.0	27.0	26.0	19.0	17.0
27	15.0	13.0	19.0	17.0	26.0	23.0	27.0	26.0	27.0	25.0	18.0	17.0
28	16.0	15.0	21.0	18.0	26.0	24.0	27.0	24.0	27.0	24.0	18.0	17.0
29	15.0	13.0	23.0	20.0	26.0	24.0	24.0	23.0	27.0	25.0	17.0	16.0
30	14.0	12.0	24.0	22.0	26.0	25.0	25.0	23.0	27.0	25.0	18.0	16.0
31	--	--	24.0	22.0	--	--	26.0	23.0	27.0	26.0	--	--

4-1865. AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO

LOCATION.--Lat 40°56'55", long 84°15'58", in SE1/4 sec.15, T.1 S.,R.5 E., Putnam County, at gaging station on left bank 200 ft upstream from gage at bridge on U.S. Highway 224, 3.5 miles northeast of Fort Jennings, and 6 miles upstream from Ottawa River.
DRAINAGE AREA.--332 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1969.
Water temperatures: October 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since October 1968. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitation. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected January to August.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
JAN.												
03...	0900	410	245	12	121	30	.4	19	522	384	163	752
22...	1330	614	156	0	68	18	.4	7.3	316	220	92	464
FEB.												
13...	0945	160	242	16	110	33	.3	14	504	354	129	720
17...	1525	110	272	16	122	34	.3	11	542	382	132	789
MAR.												
04...	--	93	226	14	122	31	.4	15	436	352	143	718
17...	--	59	236	6	140	45	.4	6.3	514	346	142	756
APR.												
07...	1100	1120	154	2	69	18	.3	27	320	236	107	493
14...	--	135	268	4	111	25	.4	11	436	360	134	713
MAY												
05...	--	78	280	0	123	30	.4	6.2	474	356	126	748
19...	--	2700	116	0	50	16	.2	40	314	186	91	415
JUNE												
03...	--	127	214	16	102	24	.4	13	400	320	118	668
11...	--	293	120	0	52	15	.4	56	270	191	92	418
JULY												
02...	--	48	276	0	106	30	.5	10	446	346	120	740
07...	--	446	188	0	90	26	.5	17	360	256	102	576
AUG.												
03...	--	36	290	0	145	41	.7	7.3	514	372	134	835
18...	--	32	314	0	156	59	.9	4.4	582	394	136	954

4-1865. AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	720	700
2	---	---	---	---	---	---	---	---	---	---	710	690
3	---	---	---	---	---	---	---	---	---	---	700	680
4	---	---	---	---	---	---	---	---	---	---	720	680
5	---	---	---	---	---	---	---	---	---	---	740	710
6	---	---	---	---	---	---	---	---	---	---	730	710
7	---	---	---	---	---	---	---	---	---	---	750	720
8	---	---	---	---	---	---	---	---	---	---	750	720
9	---	---	---	---	---	---	---	---	---	---	740	710
10	---	---	---	---	---	---	---	---	---	---	760	710
11	---	---	---	---	---	---	---	---	---	---	750	700
12	---	---	---	---	---	---	---	---	---	---	750	730
13	---	---	---	---	---	---	---	---	720	710	750	720
14	---	---	---	---	---	---	---	---	720	710	750	730
15	---	---	---	---	---	---	---	---	720	710	750	710
16	---	---	---	---	---	---	---	---	740	720	730	700
17	---	---	---	---	---	---	---	---	790	740	740	710
18	---	---	---	---	---	---	---	---	800	770	740	720
19	---	---	---	---	---	---	---	---	800	780	740	710
20	---	---	---	---	---	---	---	---	790	770	750	720
21	---	---	---	---	---	---	---	---	790	760	720	710
22	---	---	---	---	---	---	---	---	780	760	710	690
23	---	---	---	---	---	---	---	---	790	760	720	700
24	---	---	---	---	---	---	---	---	780	760	740	710
25	---	---	---	---	---	---	---	---	780	760	760	740
26	---	---	---	---	---	---	---	---	780	750	760	730
27	---	---	---	---	---	---	---	---	770	740	760	740
28	---	---	---	---	---	---	---	---	740	720	770	740
29	---	---	---	---	---	---	---	---	---	---	740	700
30	---	---	---	---	---	---	---	---	---	---	730	620
31	---	---	---	---	---	---	---	---	---	---	660	630

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	630	610	---	---	---	---	---	---	---	---	---	---
2	620	610	---	---	---	---	---	---	---	---	---	---
3	640	620	---	---	---	---	---	---	---	---	---	---
4	660	640	---	---	---	---	---	---	---	---	---	---
5	660	640	---	---	---	---	---	---	---	---	---	---
6	660	650	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	600	570	---	---	---	---
8	---	---	---	---	---	---	650	600	---	---	---	---
9	---	---	---	---	---	---	670	600	---	---	---	---
10	---	---	---	---	---	---	660	620	---	---	---	---
11	---	---	---	---	---	---	650	620	---	---	---	---
12	---	---	---	---	---	---	630	610	---	---	---	---
13	---	---	---	---	---	---	660	620	---	---	---	---
14	---	---	---	---	---	---	690	660	---	---	---	---
15	---	---	630	610	---	---	700	670	---	---	---	---
16	---	---	640	630	---	---	700	660	---	---	---	---
17	---	---	640	610	---	---	680	570	---	---	---	---
18	---	---	610	550	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	320	310	---	---	---	---	---	---	---	---
21	---	---	310	300	---	---	---	---	---	---	---	---
22	---	---	360	300	---	---	---	---	---	---	---	---
23	---	---	480	360	---	---	---	---	---	---	---	---
24	---	---	540	480	---	---	---	---	---	---	---	---
25	---	---	610	540	---	---	---	---	---	---	---	---
26	---	---	630	610	---	---	---	---	---	---	---	---
27	---	---	640	600	---	---	---	---	---	---	---	---
28	---	---	630	600	---	---	---	---	---	---	---	---
29	---	---	640	630	---	---	---	---	---	---	---	---
30	---	---	660	640	---	---	---	---	---	---	---	---
31	---	---	660	650	---	---	---	---	---	---	---	---

4-1865. AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	8.1	8.0	---	---	---	---	---	---	---	---
28	---	---	8.6	8.0	---	---	---	---	---	---	---	---
29	---	---	8.3	8.2	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1865. AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	15.0	15.0
12	---	---	---	---	---	---	---	---	---	---	15.0	15.0
13	---	---	---	---	---	---	---	---	---	---	15.0	15.0
14	---	---	---	---	---	---	---	---	---	---	15.0	15.0
15	---	---	---	---	---	---	---	---	---	---	15.0	15.0
16	---	---	---	---	---	---	---	---	---	---	15.0	15.0
17	---	---	---	---	---	---	---	---	---	---	15.0	15.0
18	---	---	---	---	---	---	---	---	---	---	15.0	15.0
19	---	---	---	---	---	---	---	---	---	---	15.0	15.0
20	---	---	---	---	---	---	---	---	---	---	15.0	15.0
21	---	---	---	---	---	---	---	---	---	---	15.0	15.0
22	---	---	---	---	---	---	---	---	---	---	15.0	14.2
23	---	---	---	---	---	---	---	---	---	---	15.0	13.6
24	---	---	---	---	---	---	---	---	---	---	13.7	12.0
25	---	---	---	---	---	---	---	---	---	---	13.5	11.5
26	---	---	---	---	---	---	---	---	---	---	14.7	12.8
27	---	---	10.4	9.7	---	---	---	---	---	---	14.3	13.2
28	---	---	9.7	9.2	---	---	---	---	---	---	13.4	12.0
29	---	---	9.3	8.8	---	---	---	---	---	---	12.0	11.2
30	---	---	---	---	---	---	---	---	---	---	13.0	10.6
31	---	---	---	---	---	---	---	---	---	---	14.1	13.2

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.9	13.3	---	---	---	---	6.3	5.8	---	---	---	---
2	13.8	13.1	---	---	---	---	6.6	6.1	---	---	---	---
3	15.0	13.8	---	---	---	---	6.4	5.9	---	---	---	---
4	15.0	15.0	---	---	---	---	6.2	5.2	---	---	---	---
5	15.0	15.0	---	---	---	---	6.0	5.2	---	---	---	---
6	15.0	14.1	---	---	---	---	6.3	5.7	---	---	---	---
7	14.1	12.9	---	---	---	---	6.1	6.0	---	---	---	---
8	14.4	12.4	---	---	---	---	---	---	---	---	---	---
9	14.8	13.2	---	---	---	---	---	---	---	---	---	---
10	14.2	10.3	---	---	---	---	---	---	---	---	---	---
11	10.9	10.0	---	---	---	---	---	---	---	---	---	---
12	10.6	9.0	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	9.3	8.0	---	---	---	---	---	---	---	---
16	---	---	9.7	9.3	---	---	---	---	---	---	---	---
17	---	---	9.4	9.0	---	---	---	---	---	---	---	---
18	---	---	9.1	8.2	---	---	---	---	---	---	---	---
19	---	---	8.9	7.9	---	---	---	---	---	---	---	---
20	---	---	8.9	8.5	---	---	---	---	---	---	---	---
21	---	---	8.7	8.3	---	---	---	---	---	---	---	---
22	---	---	8.8	8.3	---	---	---	---	---	---	---	---
23	---	---	8.6	8.4	---	---	---	---	---	---	---	---
24	---	---	8.7	8.5	---	---	---	---	---	---	---	---
25	---	---	8.7	8.6	---	---	---	---	---	---	---	---
26	---	---	8.6	8.5	6.2	6.0	---	---	---	---	---	---
27	---	---	8.6	8.4	6.3	6.0	---	---	---	---	---	---
28	---	---	8.5	7.3	6.1	5.9	---	---	---	---	---	---
29	---	---	7.3	7.1	6.3	5.9	---	---	---	---	---	---
30	---	---	7.1	7.1	6.3	5.9	---	---	---	---	---	---
31	---	---	7.1	7.1	---	---	---	---	---	---	---	---

4-1865. AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	2.0	1.0
2	---	---	---	---	---	---	---	---	---	---	2.0	1.0
3	---	---	---	---	---	---	---	---	---	---	3.0	2.0
4	---	---	---	---	---	---	---	---	---	---	4.0	2.0
5	---	---	---	---	---	---	---	---	---	---	4.0	1.0
6	---	---	---	---	---	---	---	---	---	---	6.0	1.0
7	---	---	---	---	---	---	---	---	---	---	9.0	6.0
8	---	---	---	---	---	---	---	---	---	---	8.0	6.0
9	---	---	---	---	---	---	---	---	---	---	8.0	5.0
10	---	---	---	---	---	---	---	---	---	---	7.0	3.0
11	---	---	---	---	---	---	---	---	---	---	4.0	1.0
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	0.0	0.0	---	---
14	---	---	---	---	---	---	---	---	0.0	0.0	---	---
15	---	---	---	---	---	---	---	---	1.0	0.0	---	---
16	---	---	---	---	---	---	---	---	4.0	0.0	---	---
17	---	---	---	---	---	---	---	---	1.0	0.0	---	---
18	---	---	---	---	---	---	---	---	0.0	0.0	---	---
19	---	---	---	---	---	---	---	---	1.0	0.0	---	---
20	---	---	---	---	---	---	---	---	4.0	0.0	---	---
21	---	---	---	---	---	---	---	---	1.0	0.0	---	---
22	---	---	---	---	---	---	---	---	1.0	0.0	---	---
23	---	---	---	---	---	---	---	---	2.0	1.0	---	---
24	---	---	---	---	---	---	---	---	3.0	1.0	---	---
25	---	---	---	---	---	---	---	---	3.0	2.0	---	---
26	---	---	---	---	---	---	---	---	3.0	1.0	---	---
27	---	---	---	---	---	---	---	---	3.0	2.0	---	---
28	---	---	---	---	---	---	---	---	3.0	2.0	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1875. OTTAWA RIVER AT ALLENTOWN, OHIO

LOCATION.--Lat 40°45'18", long 84°11'41", in NW 1/4 sec.29, T.3 S., R.6 E., Allen County, at gaging station on right bank at downstream side of bridge on State Highway 81 at Allentown, 0.3 mile downstream from Kessler Run.
DRAINAGE AREA.--160 sq mi.
PERIOD OF RECORD.--Chemical analyses: March to September 1969.
Water temperatures: March to September 1969.
REMARKS.--Continuous water quality recorder operated since March 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, MARCH TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)
MAR.												
20...	1215	32	294	0	362	135	1.1	112	1100	460	219	1860
APR.												
16...	1540	46	304	0	235	130	1.1	37	930	412	163	1570
MAY												
14...	1630	71	184	0	268	68	.7	59	654	316	165	1030
JUNE												
17...	1030	113	90	0	134	38	.5	73	474	264	190	736
JULY												
07...	--	54	106	0	158	70	.6	117	584	270	183	930

4-1875. OTTAWA RIVER AT ALLENTOWN, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), MARCH TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	1890	1740
21	---	---	---	---	---	---	---	---	---	---	1950	1750
22	---	---	---	---	---	---	---	---	---	---	1970	1720
23	---	---	---	---	---	---	---	---	---	---	1880	1720
24	---	---	---	---	---	---	---	---	---	---	2010	1300
25	---	---	---	---	---	---	---	---	---	---	1300	940
26	---	---	---	---	---	---	---	---	---	---	980	750
27	---	---	---	---	---	---	---	---	---	---	880	750
28	---	---	---	---	---	---	---	---	---	---	970	810
29	---	---	---	---	---	---	---	---	---	---	940	800
30	---	---	---	---	---	---	---	---	---	---	870	820
31	---	---	---	---	---	---	---	---	---	---	1050	850

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1200	990	1370	1050	1520	1070	1510	1270	---	---	---	---
2	1370	1160	1550	1040	1440	1240	1520	1270	---	---	---	---
3	1600	1090	1560	1210	1510	1300	1550	470	---	---	---	---
4	1420	1040	1710	1230	2170	1470	1460	1230	---	---	---	---
5	1440	660	1710	1270	1580	380	1560	1380	---	---	---	---
6	660	440	1730	1380	410	380	1560	1180	---	---	---	---
7	660	490	1560	1290	440	400	1440	930	---	---	---	---
8	810	650	1720	1440	550	240	---	---	---	---	---	---
9	980	760	1660	1060	800	530	---	---	---	---	---	---
10	1140	850	1380	1000	1050	800	---	---	---	---	---	---
11	1060	940	1000	740	1410	950	---	---	---	---	---	---
12	1220	990	830	720	1610	1230	---	---	---	---	---	---
13	1120	980	960	830	1610	900	---	---	---	---	---	---
14	1180	1050	1300	890	1450	910	---	---	---	---	---	---
15	1550	1190	1260	940	1400	740	---	---	---	---	---	---
16	1670	1460	1630	1060	800	660	---	---	---	---	---	---
17	1560	1420	1600	780	930	720	---	---	---	---	---	---
18	1440	520	920	180	1270	930	---	---	---	---	---	---
19	640	360	330	180	1300	1100	---	---	---	---	---	---
20	480	360	530	210	1380	1120	---	---	---	---	---	---
21	670	480	690	530	1390	1160	---	---	---	---	---	---
22	710	660	810	690	1300	1190	---	---	---	---	---	---
23	830	710	880	810	1240	720	---	---	---	---	---	---
24	1170	780	990	880	1040	720	---	---	---	---	---	---
25	1060	810	1030	960	1180	1030	---	---	---	---	---	---
26	1080	850	1040	970	1300	1090	---	---	---	---	---	---
27	940	910	1460	1030	1450	1140	---	---	---	---	---	---
28	1000	910	1530	1120	1470	1270	---	---	---	---	---	---
29	1230	930	1500	1230	1560	1330	---	---	---	---	---	---
30	1400	1030	1680	1270	1720	1510	---	---	---	---	---	---
31	---	---	1410	1270	---	---	---	---	---	---	---	---

4-1875. OTTAWA RIVER AT ALLENTOWN, OHIO--Continued

TEMPERATURE (°C) OF WATER, MARCH TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	13.0	10.0
21	---	---	---	---	---	---	---	---	---	---	10.0	6.0
22	---	---	---	---	---	---	---	---	---	---	10.0	4.0
23	---	---	---	---	---	---	---	---	---	---	10.0	7.0
24	---	---	---	---	---	---	---	---	---	---	10.0	9.0
25	---	---	---	---	---	---	---	---	---	---	10.0	6.0
26	---	---	---	---	---	---	---	---	---	---	6.0	4.0
27	---	---	---	---	---	---	---	---	---	---	6.0	2.0
28	---	---	---	---	---	---	---	---	---	---	7.0	4.0
29	---	---	---	---	---	---	---	---	---	---	6.0	5.0
30	---	---	---	---	---	---	---	---	---	---	6.0	3.0
31	---	---	---	---	---	---	---	---	---	---	6.0	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	5.0	18.0	12.0	25.0	21.0	27.0	24.0	---	---	---	---
2	9.0	8.0	21.0	14.0	23.0	18.0	26.0	22.0	---	---	---	---
3	11.0	7.0	23.0	17.0	18.0	15.0	26.0	22.0	---	---	---	---
4	13.0	8.0	24.0	19.0	20.0	14.0	27.0	23.0	---	---	---	---
5	14.0	11.0	24.0	19.0	20.0	17.0	26.0	25.0	---	---	---	---
6	11.0	9.0	24.0	19.0	22.0	16.0	25.0	22.0	---	---	---	---
7	12.0	8.0	24.0	21.0	22.0	19.0	22.0	19.0	---	---	---	---
8	15.0	10.0	23.0	20.0	20.0	16.0	---	---	---	---	---	---
9	15.0	12.0	20.0	16.0	19.0	15.0	---	---	---	---	---	---
10	14.0	12.0	16.0	13.0	21.0	16.0	---	---	---	---	---	---
11	15.0	11.0	13.0	11.0	24.0	19.0	---	---	---	---	---	---
12	16.0	11.0	13.0	10.0	25.0	22.0	---	---	---	---	---	---
13	16.0	11.0	13.0	11.0	22.0	20.0	---	---	---	---	---	---
14	16.0	14.0	19.0	13.0	21.0	19.0	---	---	---	---	---	---
15	17.0	15.0	20.0	14.0	19.0	15.0	---	---	---	---	---	---
16	20.0	15.0	23.0	17.0	19.0	15.0	---	---	---	---	---	---
17	22.0	17.0	21.0	18.0	21.0	17.0	---	---	---	---	---	---
18	20.0	11.0	19.0	16.0	20.0	18.0	---	---	---	---	---	---
19	11.0	8.0	17.0	16.0	21.0	17.0	---	---	---	---	---	---
20	10.0	7.0	16.0	15.0	21.0	18.0	---	---	---	---	---	---
21	11.0	9.0	17.0	15.0	21.0	17.0	---	---	---	---	---	---
22	10.0	8.0	16.0	14.0	20.0	18.0	---	---	---	---	---	---
23	9.0	8.0	16.0	13.0	21.0	18.0	---	---	---	---	---	---
24	13.0	8.0	19.0	14.0	21.0	19.0	---	---	---	---	---	---
25	15.0	10.0	19.0	15.0	24.0	19.0	---	---	---	---	---	---
26	18.0	11.0	20.0	15.0	28.0	23.0	---	---	---	---	---	---
27	20.0	14.0	20.0	16.0	29.0	25.0	---	---	---	---	---	---
28	18.0	15.0	23.0	18.0	29.0	25.0	---	---	---	---	---	---
29	15.0	12.0	26.0	20.0	27.0	24.0	---	---	---	---	---	---
30	17.0	11.0	24.0	22.0	27.0	24.0	---	---	---	---	---	---
31	---	---	24.0	20.0	---	---	---	---	---	---	---	---

4-1882. AUGLAIZE RIVER AT CLOVERDALE, OHIO

LOCATION.--Lat 41°01'08", long 84°17'20", Putnam County, on left bank at old bridge abutment, 0.15 mile upstream from bridge on State Route 114, 2.5 miles upstream from Blanchard River, 4.5 miles downstream from Ottawa River, and 0.8 mile east of Cloverdale.
DRAINAGE AREA.--713 sq mi.
PERIOD OF RECORD.--Chemical analyses: June 1967 to September 1969.
Water temperatures: June 1967 to September 1969.
REMARKS.--Continuous water quality recorder operated since June 1967. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.											
02...	1550	186	0	181	70	.8	23	615	342	189	964
28...	1600	282	0	257	106	1.1	35	831	418	187	1360
NOV.											
09...	1200	248	0	280	108	1.0	76	860	400	197	1390
18...	1700	96	0	91	35	.4	37	364	245	167	584
DEC.											
02...	1500	180	0	100	20	.4	31	438	290	142	636
17...	--	256	0	191	85	.5	60	686	430	220	1090
JAN.											
24...	1450	150	0	84	24	.3	26	380	246	123	549
31...	1025	66	0	37	10	.3	20	184	112	58	267
FEB.											
01...	1225	72	0	40	13	.2	22	200	145	86	304
23...	1500	184	0	168	58	.4	80	652	380	229	955
MAR.											
19...	1050	142	0	242	70	.6	86	696	346	229	1090
28...	1025	176	0	103	41	.3	34	442	304	160	667
APR.											
16...	1000	224	0	141	38	.4	31	504	350	166	788
21...	1100	136	0	72	18	.4	34	336	224	113	498
MAY											
09...	1000	222	0	159	50	.4	36	564	356	174	871
19...	1500	108	0	50	16	.2	39	290	172	84	400
JUNE											
02...	1400	220	12	140	44	.5	36	506	362	162	818
12...	0700	152	0	78	20	.3	36	334	230	105	517
JULY											
22...	1500	162	0	79	30	.5	36	370	250	117	553
31...	1425	184	0	210	73	.8	47	664	370	219	997
AUG.											
11...	1450	114	0	328	120	1.0	116	920	454	360	1340
21...	1400	146	0	203	91	.9	88	650	346	226	994
SEPT.											
01...	1545	148	0	410	132	1.0	67	944	440	319	1530
18...	1600	114	0	87	30	.5	15	294	179	86	490

4-1882. AUGLAIZE RIVER AT CLOVERDALE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	970	710	---	---	540	520	---	---	340	280	820	770
2	970	870	---	---	640	520	---	---	620	320	840	780
3	930	900	---	---	740	620	---	---	720	480	900	800
4	1060	930	---	---	750	670	---	---	480	440	980	860
5	1170	1040	---	---	760	720	---	---	480	440	900	800
6	1160	1120	---	---	720	600	---	---	560	480	870	820
7	1310	1100	---	---	640	620	---	---	640	540	920	820
8	1360	1210	---	---	620	360	---	---	680	640	940	880
9	1350	1170	---	---	970	620	---	---	790	670	920	860
10	1340	1230	---	---	810	740	---	---	---	---	950	880
11	1260	1140	---	---	840	720	---	---	---	---	1060	950
12	1300	1180	---	---	---	---	---	---	---	---	---	---
13	1200	1100	---	---	---	---	---	---	820	720	---	---
14	1240	990	840	780	---	---	---	---	---	---	---	---
15	1330	1030	870	780	---	---	---	---	---	---	---	---
16	1330	1140	1200	810	---	---	---	---	---	---	---	---
17	1190	1100	1380	500	---	---	---	---	---	---	---	---
18	1320	1180	580	500	---	---	---	---	---	---	---	---
19	1180	1080	620	520	---	---	290	260	---	---	---	---
20	1150	1050	620	560	---	---	300	290	---	---	---	---
21	1100	1000	670	560	---	---	410	290	---	---	---	---
22	---	---	690	610	---	---	500	410	---	---	---	---
23	---	---	750	630	---	---	540	320	960	690	---	---
24	---	---	810	720	---	---	680	520	960	910	---	---
25	---	---	820	760	---	---	560	360	960	880	---	---
26	---	---	920	490	---	---	450	350	960	850	---	---
27	---	---	890	780	---	---	520	440	950	800	---	---
28	---	---	880	740	---	---	580	400	800	760	---	---
29	---	---	900	720	---	---	540	340	---	---	---	---
30	---	---	740	500	---	---	340	280	---	---	---	---
31	---	---	---	---	---	---	290	260	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	980	820	---	---	1100	930	1530	1260
2	---	---	---	---	870	780	---	---	1240	980	1420	1260
3	---	---	---	---	820	740	---	---	1200	930	1300	1150
4	---	---	---	---	770	700	---	---	1180	880	1240	1110
5	---	---	---	---	850	710	---	---	1260	940	1220	1110
6	---	---	---	---	1090	830	---	---	1240	960	1230	1070
7	---	---	---	---	1190	990	---	---	1150	950	1260	1130
8	---	---	---	---	1000	770	---	---	1160	1030	1330	1060
9	---	---	---	---	960	540	---	---	1080	1010	1070	850
10	---	---	---	---	850	580	---	---	1120	950	860	680
11	---	---	---	---	790	690	---	---	1500	1030	780	690
12	---	---	---	---	810	720	---	---	1410	1120	840	740
13	---	---	---	---	770	620	---	---	1270	1000	960	810
14	---	---	---	---	780	730	---	---	1270	1050	1030	870
15	---	---	740	670	730	530	---	---	1200	1040	1180	990
16	---	---	800	650	700	550	---	---	1200	1020	1250	1160
17	---	---	820	660	650	610	---	---	1140	1060	1270	910
18	---	---	700	500	690	620	---	---	1230	1050	1130	440
19	---	---	570	390	740	670	---	---	1300	1100	490	440
20	---	---	390	350	710	640	---	---	1180	1000	550	480
21	---	---	400	340	770	700	---	---	1010	840	700	540
22	---	---	470	390	770	720	580	560	840	730	650	600
23	---	---	550	470	780	710	700	560	910	680	700	630
24	---	---	640	540	830	570	730	650	1070	830	730	660
25	---	---	720	630	640	500	770	670	1140	920	1060	700
26	---	---	760	690	620	590	830	730	1080	940	1050	690
27	---	---	830	710	---	---	850	750	1070	880	700	510
28	---	---	900	750	---	---	820	790	1140	890	570	510
29	---	---	870	660	---	---	900	790	1210	1010	760	570
30	---	---	880	870	---	---	1030	840	1230	1040	840	760
31	---	---	960	840	---	---	1000	890	1320	1040	---	---

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4-1882. AUGLAIZE RIVER AT CLOVERDALE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.5	7.4	7.8	7.7	7.5	7.5	---	---	7.6	7.5	---	---
2	7.5	7.4	7.7	7.6	7.5	7.4	---	---	---	---	---	---
3	7.6	7.5	7.7	7.6	7.5	7.4	---	---	---	---	---	---
4	7.5	7.5	7.7	7.6	---	---	---	---	---	---	---	---
5	7.6	7.5	7.7	7.5	---	---	---	---	---	---	---	---
6	7.6	7.6	7.7	7.7	---	---	---	---	---	---	---	---
7	8.0	7.6	7.7	7.6	---	---	---	---	---	---	---	---
8	8.0	7.9	7.6	7.5	---	---	---	---	---	---	---	---
9	8.0	7.9	7.6	7.6	---	---	---	---	---	---	---	---
10	7.9	7.8	7.7	7.4	---	---	---	---	---	---	---	---
11	8.0	7.8	7.7	7.6	---	---	---	---	---	---	---	---
12	8.0	7.8	7.6	7.6	---	---	---	---	---	---	---	---
13	7.9	7.9	7.6	7.5	---	---	---	---	8.2	8.1	---	---
14	8.0	7.9	7.5	7.5	---	---	---	---	---	---	---	---
15	8.0	7.9	7.5	7.5	---	---	---	---	---	---	---	---
16	8.0	7.8	7.6	7.5	---	---	---	---	---	---	---	---
17	7.9	7.7	7.7	7.4	---	---	---	---	---	---	---	---
18	7.7	7.6	7.4	7.3	---	---	---	---	---	---	---	---
19	7.7	7.6	7.4	7.4	---	---	7.7	7.6	---	---	---	---
20	7.8	7.7	7.4	7.4	---	---	7.7	7.6	---	---	---	---
21	7.8	7.7	7.4	7.4	---	---	7.8	7.7	---	---	---	---
22	7.8	7.7	7.4	7.4	---	---	8.1	7.6	---	---	---	---
23	7.8	7.7	7.5	7.4	---	---	8.2	7.7	---	---	---	---
24	7.7	7.7	7.5	7.4	---	---	8.0	8.0	---	---	---	---
25	7.8	7.7	7.6	7.5	---	---	8.1	7.5	---	---	---	---
26	7.8	7.8	7.6	7.5	---	---	---	---	---	---	---	---
27	7.8	7.8	7.7	7.6	---	---	---	---	---	---	---	---
28	7.8	7.7	7.7	7.6	---	---	---	---	---	---	---	---
29	7.8	7.8	7.7	7.4	---	---	8.0	7.8	---	---	---	---
30	7.8	7.7	7.6	7.4	---	---	7.8	7.6	---	---	---	---
31	7.8	7.6	---	---	---	---	7.6	7.5	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	7.8	7.5	7.2	7.1
2	---	---	---	---	---	---	---	---	7.5	7.3	7.2	7.1
3	---	---	---	---	---	---	---	---	7.7	7.5	7.2	7.2
4	---	---	---	---	---	---	---	---	7.8	7.5	7.3	7.2
5	---	---	---	---	---	---	---	---	7.7	7.5	7.2	7.2
6	---	---	---	---	---	---	---	---	7.7	7.5	7.3	7.2
7	---	---	---	---	---	---	---	---	7.9	7.6	7.2	7.2
8	---	---	---	---	---	---	---	---	7.8	7.7	7.3	7.2
9	---	---	---	---	---	---	---	---	7.7	7.7	7.3	7.2
10	---	---	---	---	---	---	---	---	7.7	7.6	7.2	7.0
11	---	---	---	---	---	---	---	---	7.6	7.5	7.2	6.8
12	---	---	---	---	---	---	---	---	7.6	7.4	7.2	7.0
13	---	---	---	---	---	---	---	---	7.6	7.5	7.3	7.2
14	---	---	---	---	---	---	---	---	7.7	7.4	7.3	7.1
15	---	---	---	---	---	---	---	---	7.7	7.4	7.3	7.2
16	---	---	---	---	---	---	---	---	7.6	7.4	7.2	7.2
17	---	---	---	---	---	---	---	---	7.5	7.4	7.2	7.0
18	---	---	---	---	---	---	---	---	7.4	7.2	7.2	6.9
19	---	---	---	---	---	---	---	---	7.4	7.4	7.0	6.7
20	---	---	---	---	---	---	---	---	7.5	7.4	7.0	6.9
21	---	---	---	---	---	---	---	---	7.4	7.3	7.5	6.9
22	---	---	---	---	---	---	7.3	7.2	7.4	7.1	7.5	6.6
23	---	---	---	---	---	---	7.3	7.2	7.3	7.2	6.9	6.2
24	---	---	---	---	---	---	7.3	7.3	7.3	7.2	6.7	6.5
25	---	---	---	---	---	---	7.4	7.3	7.5	7.2	6.8	6.5
26	---	---	---	---	---	---	7.6	7.3	7.3	7.2	6.8	6.6
27	---	---	---	---	---	---	7.8	7.3	7.7	7.2	6.6	6.2
28	---	---	---	---	---	---	8.0	7.4	7.3	7.2	6.5	6.1
29	---	---	---	---	---	---	8.0	7.5	7.3	7.3	6.5	6.0
30	---	---	---	---	---	---	8.3	7.6	7.3	7.2	6.6	6.2
31	---	---	---	---	---	---	8.4	7.6	7.3	7.2	---	---

4-1882. AUGLAIZE RIVER AT CLOVERDALE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.8	2.7	---	---	3.6	1.9	---	---
2	---	---	---	---	5.2	1.3	---	---	3.1	1.4	---	---
3	---	---	---	---	1.7	0.8	---	---	7.1	2.0	---	---
4	---	---	---	---	3.5	0.5	---	---	6.4	3.7	---	---
5	---	---	---	---	4.7	0.4	---	---	3.8	2.4	---	---
6	---	---	---	---	6.8	1.6	---	---	3.3	1.1	---	---
7	---	---	---	---	6.9	2.0	---	---	3.8	0.7	---	---
8	---	---	---	---	2.9	1.8	---	---	5.8	3.0	---	---
9	---	---	---	---	3.4	1.1	---	---	5.0	4.9	---	---
10	---	---	---	---	3.1	2.1	---	---	---	---	---	---
11	---	---	---	---	2.4	0.7	---	---	---	---	---	---
12	---	---	---	---	0.7	0.6	---	---	---	---	---	---
13	---	---	---	---	0.7	0.5	---	---	---	---	---	---
14	---	---	---	---	0.7	0.5	---	---	---	---	---	---
15	---	---	4.4	2.8	2.5	0.7	---	---	---	---	---	---
16	---	---	3.3	2.0	5.7	2.5	---	---	---	---	---	---
17	---	---	2.1	1.8	3.9	2.4	---	---	---	---	---	---
18	---	---	3.4	1.9	4.7	1.5	---	---	---	---	---	---
19	---	---	4.9	2.3	3.7	1.3	---	---	---	---	---	---
20	---	---	7.5	4.9	2.4	1.5	---	---	---	---	---	---
21	---	---	7.6	6.6	2.2	1.3	---	---	---	---	---	---
22	---	---	7.5	6.8	1.8	1.4	3.2	2.7	---	---	---	---
23	---	---	6.9	5.2	1.5	1.2	2.9	1.9	---	---	---	---
24	---	---	6.8	4.0	1.3	0.8	2.1	1.5	---	---	---	---
25	---	---	4.0	2.7	5.2	0.8	1.6	1.1	---	---	---	---
26	---	---	7.9	1.2	4.5	4.2	2.9	0.6	---	---	---	---
27	---	---	7.0	5.2	---	---	4.9	0.9	---	---	---	---
28	---	---	6.6	3.2	---	---	6.8	1.4	---	---	---	---
29	---	---	5.5	2.5	---	---	5.9	2.9	---	---	---	---
30	---	---	13.7	2.4	---	---	6.8	2.3	---	---	---	---
31	---	---	9.9	2.1	---	---	5.6	2.0	---	---	---	---

4-1882. AUGLAIZE RIVER AT CLOVERDALE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	16.0	12.0	8.0	7.0	6.0	---	---	4.0	3.0	4.0	2.0
2	20.0	17.0	12.0	11.0	6.0	6.0	---	---	3.0	2.0	4.0	3.0
3	19.0	17.0	13.0	12.0	7.0	6.0	---	---	3.0	2.0	5.0	3.0
4	17.0	14.0	13.0	11.0	7.0	7.0	---	---	2.0	1.0	5.0	4.0
5	14.0	13.0	12.0	11.0	7.0	4.0	---	---	2.0	0.0	5.0	4.0
6	13.0	13.0	12.0	11.0	4.0	2.0	---	---	2.0	2.0	6.0	4.0
7	13.0	12.0	11.0	10.0	2.0	1.0	---	---	2.0	1.0	6.0	4.0
8	14.0	12.0	10.0	8.0	1.0	0.0	---	---	2.0	1.0	5.0	4.0
9	15.0	13.0	8.0	7.0	---	---	---	---	2.0	1.0	5.0	4.0
10	15.0	14.0	8.0	7.0	---	---	---	---	---	---	4.0	2.0
11	15.0	13.0	7.0	7.0	---	---	---	---	---	---	3.0	1.0
12	15.0	13.0	7.0	6.0	---	---	---	---	---	---	---	---
13	16.0	14.0	7.0	6.0	---	---	---	---	3.0	1.0	3.0	2.0
14	18.0	15.0	6.0	5.0	---	---	---	---	---	---	4.0	2.0
15	20.0	16.0	8.0	6.0	---	---	---	---	---	---	4.0	2.0
16	21.0	18.0	8.0	8.0	---	---	---	---	---	---	5.0	3.0
17	22.0	19.0	9.0	8.0	---	---	---	---	---	---	6.0	4.0
18	20.0	17.0	9.0	8.0	---	---	---	---	---	---	9.0	6.0
19	18.0	16.0	8.0	7.0	---	---	1.0	1.0	---	---	10.0	9.0
20	17.0	14.0	7.0	4.0	---	---	1.0	0.0	---	---	12.0	10.0
21	16.0	13.0	4.0	4.0	---	---	0.0	0.0	---	---	11.0	8.0
22	14.0	13.0	4.0	4.0	---	---	4.0	0.0	---	---	9.0	8.0
23	14.0	11.0	6.0	4.0	---	---	3.0	1.0	4.0	3.0	9.0	8.0
24	12.0	11.0	8.0	6.0	---	---	3.0	2.0	4.0	3.0	9.0	8.0
25	12.0	11.0	7.0	7.0	---	---	3.0	1.0	4.0	3.0	9.0	7.0
26	11.0	10.0	7.0	7.0	---	---	---	---	3.0	3.0	7.0	5.0
27	11.0	9.0	8.0	7.0	---	---	---	---	3.0	2.0	5.0	4.0
28	---	---	8.0	7.0	---	---	---	---	4.0	2.0	6.0	5.0
29	9.0	8.0	8.0	8.0	---	---	2.0	0.0	---	---	7.0	6.0
30	9.0	8.0	8.0	7.0	---	---	4.0	2.0	---	---	6.0	4.0
31	9.0	8.0	---	---	---	---	4.0	3.0	---	---	4.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	13.0	11.0	26.0	23.0	---	---	26.0	24.0	27.0	25.0
2	8.0	6.0	17.0	13.0	25.0	22.0	---	---	26.0	24.0	26.0	24.0
3	8.0	7.0	20.0	17.0	22.0	18.0	---	---	26.0	23.0	26.0	24.0
4	10.0	8.0	22.0	20.0	19.0	17.0	---	---	27.0	23.0	26.0	23.0
5	12.0	10.0	22.0	20.0	20.0	18.0	---	---	27.0	24.0	26.0	24.0
6	10.0	9.0	22.0	20.0	22.0	19.0	---	---	27.0	24.0	27.0	24.0
7	10.0	9.0	22.0	21.0	22.0	21.0	---	---	28.0	24.0	25.0	23.0
8	11.0	10.0	22.0	21.0	22.0	20.0	---	---	28.0	24.0	24.0	23.0
9	13.0	10.0	21.0	17.0	20.0	17.0	---	---	25.0	24.0	23.0	20.0
10	12.0	11.0	17.0	14.0	19.0	18.0	---	---	26.0	22.0	21.0	18.0
11	12.0	11.0	14.0	12.0	22.0	19.0	---	---	25.0	22.0	20.0	19.0
12	13.0	11.0	13.0	12.0	24.0	21.0	---	---	26.0	22.0	21.0	19.0
13	13.0	11.0	14.0	13.0	23.0	21.0	---	---	26.0	22.0	22.0	19.0
14	13.0	12.0	16.0	14.0	21.0	19.0	---	---	28.0	23.0	22.0	20.0
15	14.0	13.0	18.0	16.0	19.0	16.0	---	---	28.0	24.0	23.0	20.0
16	16.0	13.0	21.0	18.0	18.0	16.0	---	---	28.0	25.0	22.0	20.0
17	18.0	16.0	21.0	19.0	20.0	18.0	---	---	26.0	25.0	21.0	19.0
18	18.0	11.0	20.0	17.0	20.0	19.0	---	---	27.0	24.0	20.0	18.0
19	12.0	9.0	18.0	17.0	20.0	19.0	---	---	28.0	25.0	19.0	18.0
20	10.0	9.0	20.0	17.0	21.0	20.0	---	---	26.0	24.0	18.0	17.0
21	11.0	10.0	18.0	17.0	21.0	20.0	---	---	25.0	23.0	29.0	17.0
22	11.0	9.0	18.0	16.0	21.0	20.0	26.0	24.0	25.0	22.0	27.0	18.0
23	9.0	9.0	16.0	15.0	21.0	19.0	27.0	24.0	26.0	21.0	25.0	19.0
24	11.0	8.0	18.0	16.0	21.0	20.0	27.0	25.0	27.0	23.0	20.0	18.0
25	13.0	11.0	18.0	17.0	22.0	20.0	27.0	25.0	27.0	23.0	19.0	17.0
26	14.0	12.0	19.0	18.0	24.0	22.0	28.0	25.0	27.0	23.0	19.0	17.0
27	16.0	13.0	20.0	18.0	---	---	27.0	25.0	27.0	22.0	18.0	17.0
28	15.0	14.0	22.0	19.0	---	---	26.0	21.0	27.0	22.0	18.0	16.0
29	14.0	11.0	25.0	21.0	---	---	24.0	22.0	27.0	23.0	17.0	16.0
30	12.0	10.0	28.0	23.0	---	---	26.0	22.0	28.0	23.0	18.0	16.0
31	---	---	24.0	23.0	---	---	26.0	23.0	27.0	24.0	---	---

4-1890. BLANCHARD RIVER NEAR FINDLAY, OHIO

LOCATION.--Lat 41°03'21", long 83°41'17", on east line of sec.10, T.1 N., R.10 E., Hancock County, at gaging station on left bank at upstream side of county highway bridge, 2 miles west of Findlay, and 3 miles downstream from Eagle Creek.
DRAINAGE AREA.--346 sq mi.
PERIOD OF RECORD.--Chemical analyses: July 1968 to September 1969.
Water temperatures: July 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since July 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
15...	0910	16	166	6	167	38	1.5	33	500	282	136	755
22...	1750	17	172	4	178	41	1.1	35	508	284	136	813
28...	1000	16	208	0	186	52	--	--	568	324	153	889
NOV.												
13...	1550	21	259	0	200	44	1.3	26	598	374	162	934
DEC.												
26...	1440	73	218	0	170	40	.4	43	566	390	211	857
30...	1330	1680	94	0	56	13	.1	22	234	161	84	360
JAN.												
21...	1815	450	136	0	78	18	.4	12	316	212	101	471
FEB.												
12...	1440	111	246	0	154	28	.5	20	562	376	174	779
18...	1025	69	252	5	172	30	1.0	21	602	398	183	838
MAR.												
11...	1237	61	224	6	164	28	.6	19	552	365	171	779
APR.												
16...	1315	89	212	6	144	29	.8	19	470	342	158	732
20...	0850	2620	94	0	54	12	.4	33	252	182	105	365
MAY												
11...	0910	1820	120	0	56	13	.3	28	278	188	90	401
22...	0810	1020	250	0	132	28	.8	26	480	360	155	772
JUNE												
03...	0845	91	226	0	159	34	1.2	24	546	342	157	800
10...	0800	61	250	0	63	20	.4	6.6	378	270	64	571
JULY												
01...	0745	61	218	0	146	37	.8	18	504	298	119	784
17...	1530	44	146	0	119	29	1.1	34	390	230	110	617
AUG.												
18...	0830	15	124	0	115	25	1.2	14	326	190	88	544
31...	0950	9.1	160	0	150	45	2.4	28	552	256	124	852
SEPT.												
14...	0840	14	194	0	198	40	1.7	26	528	322	163	852
28...	0850	40	176	0	135	29	1.0	24	416	282	138	665

4-1890. BLANCHARD RIVER NEAR FINDLAY, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	860	660	940	890	---	---	---	---	---	---	---	---
2	900	720	940	910	---	---	---	---	---	---	---	---
3	900	640	930	890	---	---	---	---	---	---	---	---
4	770	560	910	870	---	---	---	---	---	---	---	---
5	840	670	960	900	---	---	---	---	---	---	---	---
6	820	660	960	900	---	---	---	---	---	---	---	---
7	800	670	900	710	---	---	---	---	---	---	---	---
8	800	670	860	710	---	---	---	---	---	---	---	---
9	840	800	910	830	---	---	---	---	---	---	---	---
10	830	800	950	910	---	---	---	---	---	---	---	---
11	830	690	910	890	---	---	---	---	---	---	830	780
12	830	670	940	880	---	---	---	---	770	760	---	---
13	850	710	940	920	---	---	---	---	800	770	---	---
14	810	720	960	930	---	---	---	---	---	---	---	---
15	800	750	930	710	---	---	---	---	---	---	---	---
16	820	780	830	600	---	---	---	---	---	---	---	---
17	830	800	860	760	---	---	---	---	---	---	---	---
18	850	790	790	750	---	---	---	---	---	---	---	---
19	860	790	790	750	---	---	---	---	---	---	---	---
20	810	780	820	780	---	---	---	---	---	---	---	---
21	830	800	---	---	---	---	---	---	---	---	---	---
22	840	790	---	---	---	---	600	510	---	---	---	---
23	860	830	---	---	---	---	630	600	---	---	---	---
24	890	840	---	---	---	---	600	490	---	---	---	---
25	900	870	---	---	---	---	540	490	---	---	---	---
26	880	840	---	---	---	---	630	540	---	---	---	---
27	880	870	---	---	---	---	690	630	---	---	---	---
28	870	830	---	---	---	---	870	650	---	---	---	---
29	880	830	---	---	---	---	650	260	---	---	---	---
30	900	880	---	---	---	---	280	250	---	---	---	---
31	900	860	---	---	---	---	340	280	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	700	660	---	---	810	760	710	530
2	---	---	---	---	780	700	---	---	---	---	730	660
3	---	---	---	---	810	770	---	---	---	---	700	600
4	---	---	---	---	800	740	---	---	---	---	700	580
5	---	---	---	---	740	650	---	---	---	---	720	550
6	---	---	---	---	760	680	---	---	---	---	640	550
7	---	---	---	---	---	---	---	---	---	---	750	640
8	---	---	---	---	---	---	---	---	780	720	760	680
9	---	---	---	---	---	---	---	---	780	710	---	---
10	---	---	---	---	---	---	---	---	820	750	---	---
11	---	---	---	---	---	---	---	---	770	630	---	---
12	---	---	---	---	---	---	---	---	740	670	---	---
13	---	---	---	---	---	---	---	---	750	620	---	---
14	---	---	---	---	---	---	---	---	630	540	---	---
15	---	---	---	---	---	---	---	---	630	540	---	---
16	---	---	---	---	---	---	---	---	620	530	---	---
17	---	---	---	---	---	---	690	630	660	570	---	---
18	---	---	---	---	---	---	740	690	780	460	---	---
19	---	---	---	---	---	---	810	690	670	550	---	---
20	---	---	---	---	---	---	750	470	740	670	---	---
21	---	---	---	---	---	---	680	290	790	680	---	---
22	---	---	---	---	---	---	710	660	760	650	---	---
23	---	---	---	---	---	---	680	550	740	650	---	---
24	---	---	---	---	---	---	580	550	760	670	---	---
25	---	---	---	---	---	---	640	570	730	670	---	---
26	---	---	---	---	---	---	680	610	730	670	700	680
27	---	---	760	700	---	---	700	660	730	650	730	690
28	---	---	750	700	---	---	700	620	730	620	730	700
29	---	---	780	750	---	---	650	610	790	700	700	660
30	---	---	760	710	---	---	720	620	730	610	700	680
31	---	---	720	700	---	---	780	720	750	660	---	---

4-1890. BLANCHARD RIVER NEAR FINDLAY, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.6	7.9	7.9	7.7	---	---	---	---	---	---	---	---
2	8.5	7.9	7.8	7.4	---	---	7.4	6.8	---	---	---	---
3	7.9	7.4	7.7	7.3	---	---	7.5	6.9	---	---	---	---
4	8.4	7.7	7.8	7.3	---	---	8.2	7.0	---	---	---	---
5	8.4	7.9	7.6	7.4	---	---	8.3	7.6	---	---	---	---
6	8.6	7.8	7.5	7.3	---	---	8.2	7.3	---	---	---	---
7	7.9	7.7	7.3	7.2	---	---	8.3	7.9	---	---	---	---
8	7.9	7.7	7.5	7.3	---	---	8.4	7.9	---	---	---	---
9	7.8	7.7	7.7	7.5	---	---	8.4	7.9	---	---	---	---
10	7.8	7.6	7.7	7.6	---	---	8.2	7.2	---	---	---	---
11	7.9	7.6	7.8	7.7	---	---	8.2	7.9	---	---	8.5	8.3
12	8.2	7.7	7.9	7.7	---	---	8.3	7.7	---	---	---	---
13	8.4	7.9	7.9	7.7	---	---	8.1	7.7	---	---	---	---
14	8.2	7.7	7.9	7.7	---	---	8.2	7.9	---	---	---	---
15	8.2	7.6	7.7	7.5	---	---	8.1	7.7	---	---	---	---
16	8.1	7.9	7.7	7.4	---	---	7.9	7.4	---	---	---	---
17	7.9	7.8	7.8	7.7	---	---	7.6	7.1	---	---	---	---
18	7.9	7.7	7.7	7.6	---	---	7.6	7.0	---	---	---	---
19	7.8	7.6	7.8	7.6	---	---	7.6	7.4	---	---	---	---
20	7.7	7.6	7.8	7.7	---	---	7.6	7.4	---	---	---	---
21	7.6	7.5	8.4	7.7	---	---	7.5	7.2	---	---	---	---
22	7.7	7.5	8.4	8.1	---	---	7.4	7.2	---	---	---	---
23	7.5	7.4	8.6	8.4	---	---	7.4	7.1	---	---	---	---
24	7.5	7.4	8.6	8.2	---	---	7.1	6.9	---	---	---	---
25	7.6	7.4	8.3	8.2	---	---	6.9	6.5	---	---	---	---
26	7.6	7.5	8.4	8.1	---	---	7.7	7.0	---	---	---	---
27	7.9	7.5	8.4	8.1	---	---	7.8	7.7	---	---	---	---
28	7.8	7.7	---	---	---	---	8.0	7.8	---	---	---	---
29	7.9	7.7	---	---	---	---	8.1	7.7	---	---	---	---
30	7.9	7.7	---	---	---	---	7.7	7.1	---	---	---	---
31	8.0	7.8	---	---	---	---	7.9	7.4	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.4	7.7	---	---	---	---	---	---
2	---	---	---	---	8.1	7.8	---	---	---	---	---	---
3	---	---	---	---	8.0	7.6	---	---	---	---	---	---
4	---	---	---	---	8.0	7.7	---	---	---	---	---	---
5	---	---	---	---	7.9	7.4	---	---	---	---	---	---
6	---	---	---	---	8.0	7.6	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	7.9	7.7	---	---	---	---	---	---
26	---	---	---	---	7.7	7.2	---	---	---	---	---	---
27	---	---	8.0	7.9	7.3	6.8	---	---	---	---	---	---
28	---	---	8.0	7.9	7.0	6.6	---	---	---	---	---	---
29	---	---	8.1	7.9	6.8	6.4	---	---	---	---	---	---
30	---	---	8.4	7.9	6.6	6.2	---	---	---	---	---	---
31	---	---	8.5	7.9	---	---	---	---	---	---	---	---

4-1890. BLANCHARD RIVER NEAR FINDLAY, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.2	8.2	9.3	7.4	---	---	---	---	---	---	12.0	10.6
2	8.6	6.4	8.7	7.1	---	---	10.5	10.4	---	---	11.4	10.2
3	6.4	5.6	9.9	7.3	---	---	10.7	10.4	---	---	12.1	8.5
4	9.8	6.4	10.0	7.6	---	---	11.1	10.7	---	---	11.6	9.2
5	10.4	7.3	9.3	7.4	---	---	10.9	10.3	---	---	11.6	8.8
6	9.8	6.9	7.6	6.5	---	---	10.8	10.1	---	---	11.1	8.4
7	7.2	6.6	6.7	6.0	---	---	11.5	10.1	---	---	11.1	8.6
8	8.8	6.5	8.1	6.6	---	---	11.3	10.7	---	---	10.8	8.3
9	8.9	6.6	9.1	8.1	---	---	11.9	10.9	---	---	11.5	9.0
10	7.6	6.9	9.8	8.7	---	---	12.0	11.6	---	---	11.7	9.4
11	9.3	6.4	10.3	9.1	---	---	12.1	11.6	---	---	12.0	10.1
12	9.5	7.6	10.2	9.2	---	---	12.4	11.9	12.2	11.2	---	---
13	9.4	8.6	10.3	9.3	---	---	12.4	12.0	11.7	11.0	---	---
14	9.2	6.9	10.2	8.9	---	---	13.0	12.1	11.7	11.1	---	---
15	8.9	6.6	8.9	6.4	---	---	13.5	12.9	11.6	10.8	---	---
16	8.3	6.0	8.6	6.3	---	---	13.5	12.9	11.6	11.1	---	---
17	7.5	6.1	8.3	7.9	---	---	13.7	12.4	11.9	10.9	---	---
18	6.9	5.4	9.1	7.8	---	---	14.2	13.0	11.9	10.9	---	---
19	7.4	5.7	9.8	8.9	---	---	13.9	12.2	11.9	11.0	---	---
20	7.8	6.2	10.0	9.4	---	---	14.8	14.2	12.2	10.9	---	---
21	8.0	6.3	9.5	0.3	---	---	14.9	12.6	12.5	11.3	---	---
22	7.6	6.4	10.1	3.7	---	---	12.6	10.7	12.4	11.4	---	---
23	8.5	6.8	12.1	9.7	---	---	10.8	10.1	12.8	11.7	---	---
24	8.7	7.5	11.1	9.7	---	---	11.6	10.0	12.7	11.8	---	---
25	8.6	7.4	12.2	11.1	---	---	12.4	11.6	12.4	11.0	---	---
26	8.6	7.7	11.8	9.9	---	---	12.4	11.6	11.8	11.0	---	---
27	9.0	8.3	10.5	9.2	---	---	12.0	11.3	11.8	10.8	---	---
28	9.5	8.4	---	---	---	---	11.8	9.9	11.9	10.7	---	---
29	10.2	9.2	---	---	---	---	11.7	10.3	---	---	---	---
30	10.5	9.0	---	---	---	---	10.4	8.0	---	---	---	---
31	10.3	9.0	---	---	---	---	8.3	7.8	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	6.0	5.7	5.2
2	---	---	---	---	---	---	---	---	---	---	6.1	5.0
3	---	---	---	---	---	---	---	---	---	---	6.2	5.4
4	---	---	---	---	---	---	---	---	---	---	6.1	5.6
5	---	---	---	---	---	---	---	---	---	---	6.1	5.1
6	---	---	---	---	---	---	---	---	---	---	6.3	5.6
7	---	---	---	---	---	---	---	---	---	---	5.6	3.9
8	---	---	---	---	---	---	---	---	6.5	4.1	5.0	4.1
9	---	---	---	---	---	---	---	---	7.0	3.3	---	---
10	---	---	---	---	---	---	---	---	3.7	2.5	---	---
11	---	---	---	---	---	---	---	---	6.9	3.1	---	---
12	---	---	---	---	---	---	---	---	6.8	2.7	---	---
13	---	---	---	---	---	---	---	---	6.3	5.1	---	---
14	---	---	---	---	---	---	---	---	6.4	5.4	---	---
15	---	---	---	---	---	---	---	---	6.7	5.8	---	---
16	---	---	---	---	---	---	---	---	6.7	6.1	---	---
17	---	---	---	---	---	---	3.9	3.0	6.3	5.7	---	---
18	---	---	---	---	---	---	6.3	2.7	6.1	0.6	---	---
19	---	---	---	---	---	---	6.3	3.2	4.8	0.8	---	---
20	---	---	---	---	---	---	6.5	3.9	4.5	2.4	---	---
21	---	---	---	---	---	---	9.5	4.4	4.1	3.3	---	---
22	---	---	---	---	---	---	7.4	5.9	4.2	3.7	---	---
23	---	---	---	---	---	---	6.1	4.3	4.6	3.9	---	---
24	---	---	---	---	---	---	4.4	3.1	4.3	3.7	---	---
25	---	---	---	---	10.6	8.8	4.2	3.2	4.5	4.1	---	---
26	---	---	---	---	8.8	5.4	4.4	3.3	5.0	4.1	8.2	7.0
27	---	---	7.4	6.9	8.4	7.2	4.6	3.2	5.9	4.9	7.3	---
28	---	---	7.4	6.7	8.5	7.2	4.9	3.7	6.0	5.0	---	---
29	---	---	7.8	6.3	8.0	6.9	8.7	4.9	6.0	5.1	---	---
30	---	---	---	---	8.3	7.2	7.5	6.3	5.9	5.2	---	---
31	---	---	---	---	---	---	9.2	6.8	5.5	5.0	---	---

4-1890. BLANCHARD RIVER NEAR FINDLAY, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	18.0	15.0	10.0	---	---	---	---	---	---	4.0	2.0
2	21.0	19.0	14.0	12.0	---	---	1.0	0.0	---	---	5.0	3.0
3	20.0	16.0	13.0	12.0	---	---	0.0	0.0	---	---	7.0	2.0
4	16.0	13.0	12.0	11.0	---	---	0.0	0.0	---	---	7.0	3.0
5	14.0	11.0	13.0	11.0	---	---	0.0	0.0	---	---	8.0	4.0
6	14.0	13.0	13.0	12.0	---	---	0.0	0.0	---	---	8.0	5.0
7	15.0	13.0	12.0	10.0	---	---	0.0	0.0	---	---	7.0	5.0
8	16.0	13.0	10.0	8.0	---	---	0.0	0.0	---	---	6.0	5.0
9	17.0	14.0	8.0	7.0	---	---	0.0	0.0	---	---	6.0	4.0
10	17.0	15.0	8.0	7.0	---	---	0.0	0.0	---	---	5.0	3.0
11	16.0	14.0	8.0	6.0	---	---	0.0	0.0	---	---	3.0	1.0
12	18.0	15.0	7.0	6.0	---	---	0.0	0.0	3.0	1.0	---	---
13	19.0	16.0	7.0	5.0	---	---	0.0	0.0	2.0	0.0	---	---
14	20.0	17.0	8.0	5.0	---	---	1.0	0.0	3.0	0.0	---	---
15	21.0	18.0	11.0	8.0	---	---	1.0	0.0	2.0	1.0	---	---
16	21.0	18.0	10.0	6.0	---	---	2.0	1.0	3.0	1.0	---	---
17	20.0	19.0	8.0	7.0	---	---	3.0	1.0	4.0	1.0	---	---
18	19.0	17.0	8.0	6.0	---	---	2.0	0.0	5.0	2.0	---	---
19	17.0	14.0	6.0	4.0	---	---	0.0	0.0	5.0	2.0	---	---
20	15.0	13.0	4.0	4.0	---	---	0.0	0.0	6.0	3.0	---	---
21	14.0	12.0	5.0	3.0	---	---	2.0	0.0	6.0	2.0	---	---
22	14.0	12.0	7.0	3.0	---	---	3.0	2.0	5.0	3.0	---	---
23	13.0	11.0	13.0	4.0	---	---	5.0	3.0	4.0	3.0	---	---
24	12.0	10.0	13.0	7.0	---	---	6.0	2.0	5.0	4.0	---	---
25	12.0	10.0	7.0	4.0	---	---	2.0	0.0	4.0	3.0	---	---
26	11.0	9.0	10.0	4.0	---	---	1.0	0.0	4.0	2.0	---	---
27	11.0	9.0	10.0	7.0	---	---	2.0	0.0	4.0	2.0	---	---
28	9.0	8.0	---	---	---	---	2.0	0.0	4.0	2.0	---	---
29	9.0	7.0	---	---	---	---	2.0	0.0	---	---	---	---
30	9.0	5.0	---	---	---	---	5.0	2.0	---	---	---	---
31	11.0	8.0	---	---	---	---	5.0	3.0	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	25.0	22.0	---	---	26.0	23.0	27.0	25.0
2	---	---	---	---	23.0	20.0	---	---	---	---	26.0	23.0
3	---	---	---	---	20.0	16.0	---	---	---	---	28.0	23.0
4	---	---	---	---	20.0	16.0	---	---	---	---	26.0	24.0
5	---	---	---	---	20.0	17.0	---	---	---	---	33.0	25.0
6	---	---	---	---	---	---	---	---	---	---	30.0	25.0
7	---	---	---	---	---	---	---	---	---	---	31.0	25.0
8	---	---	---	---	---	---	---	---	27.0	25.0	25.0	24.0
9	---	---	---	---	---	---	---	---	26.0	22.0	---	---
10	---	---	---	---	---	---	---	---	23.0	21.0	---	---
11	---	---	---	---	---	---	---	---	25.0	22.0	---	---
12	---	---	---	---	---	---	---	---	26.0	22.0	---	---
13	---	---	---	---	---	---	---	---	26.0	23.0	---	---
14	---	---	---	---	---	---	---	---	29.0	24.0	---	---
15	---	---	---	---	---	---	---	---	29.0	24.0	---	---
16	---	---	---	---	---	---	---	---	29.0	25.0	---	---
17	---	---	---	---	---	---	28.0	27.0	30.0	26.0	---	---
18	---	---	---	---	---	---	29.0	25.0	30.0	23.0	---	---
19	---	---	---	---	---	---	28.0	26.0	25.0	23.0	---	---
20	---	---	---	---	---	---	27.0	25.0	27.0	23.0	---	---
21	---	---	---	---	---	---	28.0	24.0	27.0	24.0	---	---
22	---	---	---	---	---	---	27.0	24.0	26.0	23.0	---	---
23	---	---	---	---	---	---	28.0	24.0	26.0	21.0	---	---
24	---	---	---	---	---	---	28.0	24.0	26.0	22.0	---	---
25	---	---	---	---	23.0	22.0	28.0	24.0	26.0	21.0	---	---
26	---	---	---	---	25.0	21.0	28.0	24.0	27.0	24.0	19.0	18.0
27	---	---	19.0	18.0	25.0	23.0	28.0	24.0	33.0	23.0	19.0	17.0
28	---	---	22.0	17.0	25.0	22.0	27.0	23.0	33.0	24.0	18.0	17.0
29	---	---	24.0	19.0	24.0	22.0	24.0	22.0	28.0	24.0	18.0	15.0
30	---	---	25.0	22.0	24.0	22.0	24.0	22.0	27.0	24.0	18.0	15.0
31	---	---	25.0	21.0	---	---	27.0	23.0	27.0	25.0	---	---

4-1915. AUGLAIZE RIVER NEAR DEFIANCE, OHIO

LOCATION.--Lat 41°14'15", long 84°23'57", in NE 1/4 sec.9, T.3 N., R.4 E., Defiance County, just above dam at powerplant of Toledo Edison Company, 125 ft upstream from gaging station, 0.2 mile upstream from Jackson ditch, and 3 miles south of Defiance.
DRAINAGE AREA.--2,318 sq mi.
PERIOD OF RECORD.--Chemical analyses: January 1966 to September 1969.
Water temperatures: January 1966 to September 1969.
EXTREMES, 1966-69.--Specific conductance (1966-68): Maximum, 1,030 micromhos Jan. 25, 26, 1968; minimum, 240 micromhos Jan. 30 to Feb. 1, 1968.
Water temperatures (1966-68): Maximum, 30°C Aug. 21-24, 1968; minimum, freezing point on several days during February and December 1966, February and March 1967.
REMARKS.--Continuous water quality recorder operated since January 1966. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DISCHARGE (CFS)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.												
03...	1900	76	212	0	153	52	1.1	5.8	519	333	159	813
23...	1630	61	202	0	175	61	1.2	11	581	346	180	886
NOV.												
18...	1730	1440	192	0	226	78	1.8	58	754	380	222	1070
21...	1740	760	144	0	125	42	.7	33	474	255	137	678
DEC.												
02...	1725	1120	180	0	147	46	.6	40	530	330	182	769
05...	1720	790	180	0	112	31	.4	27	452	290	142	652
JAN.												
27...	1800	3300	133	0	71	18	.3	33	296	216	107	468
30...	1720	22100	80	0	37	14	.8	19	170	120	54	286
FEB.												
03...	1755	13100	96	0	48	13	.2	27	216	149	70	342
27...	1715	930	242	0	149	45	.6	33	532	358	159	834
MAR.												
03...	1805	603	232	0	154	41	.6	33	576	372	182	933
12...	1115	492	200	4	127	35	.3	32	512	342	171	742
APR.												
15...	1750	900	208	0	104	24	.3	31	420	315	144	648
21...	1735	15900	114	0	55	14	.2	38	278	190	96	410
MAY												
02...	1710	751	198	6	114	33	.3	28	456	312	140	655
23...	1735	5630	132	0	53	12	.3	27	290	184	76	401
JUNE												
07...	1505	568	222	10	120	34	.6	23	446	340	141	710
18...	1715	4780	138	0	57	15	.3	69	300	224	111	481
JULY												
22...	1645	1570	212	0	110	30	.6	30	434	302	128	691
28...	1655	251	180	0	72	18	.5	20	320	232	84	525
AUG.												
04...	1615	148	190	0	80	21	.7	16	342	248	92	566
29...	1200	74	202	0	152	45	.7	14	496	306	140	806
SEPT.												
16...	1640	98	206	0	183	66	1.0	16	576	336	167	916
22...	1805	594	116	0	103	34	.7	28	334	208	113	570

4-1915. AUGLAIZE RIVER NEAR DEFIANCE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	940	930	820	680	---	---	300	260	---	---
2	---	---	950	930	790	770	---	---	360	300	---	---
3	810	800	940	920	820	720	---	---	---	---	---	---
4	800	790	950	930	720	600	---	---	---	---	---	---
5	820	790	940	930	660	620	---	---	---	---	---	---
6	820	800	950	930	680	660	---	---	---	---	---	---
7	830	820	960	930	720	680	---	---	---	---	---	---
8	---	---	970	960	730	710	---	---	---	---	---	---
9	---	---	970	960	720	710	---	---	---	---	---	---
10	---	---	970	940	710	700	---	---	---	---	---	---
11	---	---	990	950	720	700	---	---	---	---	---	---
12	---	---	1000	970	740	720	---	---	---	---	750	740
13	---	---	1000	990	750	720	---	---	---	---	740	740
14	---	---	1000	980	730	720	---	---	---	---	740	740
15	---	---	1000	920	730	720	---	---	---	---	740	730
16	---	---	960	940	---	---	---	---	---	---	730	720
17	860	770	1000	960	---	---	---	---	---	---	780	730
18	770	750	1110	960	---	---	---	---	---	---	780	770
19	940	770	1090	900	---	---	---	---	---	---	780	780
20	890	840	920	710	---	---	---	---	---	---	790	780
21	920	880	740	670	---	---	---	---	---	---	---	---
22	890	880	680	650	---	---	---	---	---	---	---	---
23	910	890	700	670	---	---	340	330	---	---	---	---
24	920	910	720	690	---	---	420	340	---	---	---	---
25	930	920	720	700	---	---	500	400	---	---	---	---
26	930	920	730	710	---	---	480	470	---	---	---	---
27	940	930	730	720	---	---	470	450	---	---	---	---
28	960	940	720	690	---	---	500	450	---	---	---	---
29	960	950	690	680	---	---	500	380	---	---	---	---
30	970	940	680	660	---	---	380	270	---	---	---	---
31	950	930	---	---	---	---	270	260	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	560	540	---	---
2	---	---	---	---	---	---	---	---	560	550	---	---
3	---	---	---	---	---	---	---	---	570	560	---	---
4	---	---	---	---	---	---	---	---	570	560	---	---
5	---	---	---	---	---	---	---	---	580	560	---	---
6	---	---	---	---	---	---	---	---	590	590	---	---
7	520	420	---	---	---	---	---	---	600	550	---	---
8	540	500	---	---	---	---	---	---	---	---	---	---
9	560	540	---	---	---	---	---	---	---	---	880	860
10	590	550	---	---	---	---	---	---	---	---	890	840
11	620	580	---	---	---	---	---	---	---	---	900	780
12	640	620	---	---	---	---	---	---	---	---	860	750
13	650	640	---	---	---	---	---	---	---	---	900	780
14	660	630	---	---	---	---	---	---	---	---	910	870
15	680	620	---	---	---	---	---	---	---	---	920	900
16	680	660	---	---	---	---	---	---	---	---	930	900
17	680	630	---	---	---	---	---	---	---	---	940	910
18	---	---	---	---	---	---	---	---	---	---	1020	940
19	---	---	---	---	---	---	---	---	---	---	1090	850
20	---	---	---	---	---	---	---	---	---	---	860	600
21	---	---	---	---	---	---	---	---	---	---	600	530
22	---	---	---	---	---	---	710	690	---	---	580	450
23	---	---	---	---	---	---	690	610	---	---	610	550
24	---	---	---	---	---	---	620	540	---	---	610	560
25	---	---	---	---	---	---	570	530	---	---	610	520
26	---	---	---	---	---	---	560	530	---	---	610	570
27	---	---	---	---	---	---	580	420	---	---	590	590
28	---	---	---	---	---	---	620	520	---	---	610	590
29	---	---	---	---	---	---	650	450	---	---	620	610
30	---	---	---	---	---	---	---	---	---	---	690	620
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1915. AUGLAIZE RIVER NEAR DEFIANCE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	7.4	7.3	7.7	7.3	---	---
2	---	---	---	---	---	---	7.6	7.2	7.5	7.2	---	---
3	---	---	---	---	---	---	8.1	7.5	7.4	7.0	---	---
4	---	---	---	---	---	---	8.0	7.7	7.4	7.1	---	---
5	---	---	---	---	---	---	8.0	7.8	8.1	7.4	---	---
6	---	---	---	---	---	---	8.0	7.8	8.4	7.8	---	---
7	---	---	---	---	---	---	7.8	7.7	8.1	7.9	---	---
8	---	---	---	---	---	---	7.7	7.6	7.9	7.9	---	---
9	---	---	---	---	---	---	7.6	7.3	7.9	7.7	7.5	7.4
10	---	---	---	---	---	---	---	---	7.9	7.7	7.6	7.4
11	---	---	---	---	---	---	7.6	7.4	7.8	7.5	7.6	7.5
12	---	---	---	---	---	---	7.6	7.4	7.7	7.5	7.6	7.4
13	---	---	---	---	---	---	7.5	7.4	8.4	7.7	7.6	7.5
14	---	---	---	---	---	---	8.2	7.4	8.5	8.2	7.6	7.5
15	---	---	---	---	---	---	8.4	7.8	8.7	8.2	7.7	7.5
16	---	---	---	---	---	---	---	---	---	---	7.6	7.5
17	---	---	---	---	---	---	7.9	7.8	---	---	7.5	7.4
18	---	---	---	---	---	---	8.1	7.7	---	---	7.5	7.4
19	---	---	---	---	---	---	8.0	7.5	---	---	7.6	7.1
20	---	---	---	---	---	---	7.9	7.7	7.8	7.6	7.2	7.1
21	---	---	---	---	---	---	8.1	7.8	7.8	7.7	7.1	7.0
22	---	---	---	---	---	---	8.1	7.8	7.7	7.7	7.9	7.0
23	---	---	---	---	---	---	7.8	7.3	7.7	7.6	7.8	7.3
24	---	---	---	---	---	---	8.2	7.2	7.8	7.7	7.4	7.1
25	---	---	---	---	---	---	8.2	7.7	8.0	7.8	7.2	7.1
26	---	---	---	---	7.2	7.1	7.9	7.5	8.0	7.7	7.1	6.9
27	---	---	---	---	7.2	7.1	7.6	7.4	8.2	7.7	7.2	6.9
28	---	---	---	---	7.4	7.2	7.4	7.3	8.8	8.0	7.4	7.0
29	---	---	---	---	7.7	7.3	7.5	7.4	8.7	8.4	7.1	7.0
30	---	---	---	---	---	---	7.5	7.3	---	---	7.6	7.0
31	---	---	---	---	---	---	7.6	7.4	---	---	---	---

4-1915. AUGLAIZE RIVER NEAR DEFIANCE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	13.6	6.9	---	---
2	---	---	---	---	---	---	---	---	13.0	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	12.0	9.5	---	---	---	---	---	---	---	---
15	---	---	15.0	8.9	---	---	---	---	---	---	---	---
16	---	---	15.0	13.6	---	---	---	---	---	---	---	---
17	10.6	9.2	13.6	12.8	---	---	---	---	---	---	---	---
18	9.2	6.9	12.8	10.5	---	---	---	---	---	---	---	---
19	6.9	4.2	10.5	8.9	---	---	---	---	---	---	---	---
20	6.3	4.4	9.5	8.7	---	---	---	---	---	---	---	---
21	8.5	4.3	9.4	8.6	---	---	---	---	---	---	---	---
22	6.4	4.6	9.7	8.5	---	---	---	---	---	---	---	---
23	6.8	5.3	9.6	9.2	---	---	11.6	9.8	---	---	---	---
24	6.4	5.6	---	---	---	---	12.9	9.5	---	---	---	---
25	6.7	5.6	---	---	---	---	12.4	9.7	---	---	---	---
26	7.0	5.8	---	---	---	---	12.0	10.5	---	---	---	---
27	7.4	6.4	---	---	---	---	11.7	11.2	---	---	---	---
28	8.5	6.8	---	---	---	---	12.1	10.8	---	---	---	---
29	8.4	6.9	---	---	---	---	12.0	9.8	---	---	---	---
30	---	---	---	---	---	---	11.9	10.0	---	---	---	---
31	---	---	---	---	---	---	11.2	9.4	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	14.6	12.8	7.9	5.0	---	---
2	---	---	---	---	---	---	14.6	8.0	5.6	4.0	---	---
3	---	---	---	---	---	---	14.4	10.2	5.0	1.8	---	---
4	---	---	---	---	---	---	14.1	11.4	5.0	2.6	---	---
5	---	---	---	---	---	---	12.7	10.6	10.0	4.6	---	---
6	---	---	---	---	---	---	11.8	10.4	13.0	7.6	---	---
7	---	---	---	---	---	---	11.2	9.2	10.6	7.7	---	---
8	---	---	---	---	---	---	10.2	9.1	7.7	6.7	---	---
9	---	---	---	---	---	---	9.7	8.7	6.9	5.8	7.7	6.8
10	---	---	---	---	---	---	---	---	6.9	5.5	7.4	6.6
11	---	---	---	---	---	---	6.3	5.1	6.5	4.4	7.8	6.8
12	---	---	---	---	---	---	6.5	4.0	5.1	4.0	8.3	6.9
13	---	---	---	---	---	---	5.3	4.2	11.6	5.1	9.5	7.7
14	---	---	---	---	---	---	10.9	5.3	14.6	10.2	9.7	8.3
15	---	---	---	---	---	---	13.3	7.3	14.7	10.4	9.9	8.5
16	---	---	---	---	---	---	---	---	---	---	9.8	8.4
17	---	---	---	---	---	---	12.0	7.4	---	---	8.4	7.1
18	---	---	---	---	---	---	10.4	6.4	---	---	7.1	6.4
19	---	---	---	---	---	---	8.8	4.0	---	---	6.4	5.5
20	---	---	---	---	---	---	7.2	5.4	8.8	8.4	5.5	3.6
21	---	---	---	---	---	---	7.8	5.9	8.5	8.1	4.0	3.5
22	---	---	---	---	---	---	8.1	6.5	8.1	7.9	11.4	4.0
23	---	---	---	---	---	---	8.2	5.0	7.9	7.7	12.6	10.0
24	---	---	---	---	---	---	9.8	3.6	8.1	7.8	10.0	7.4
25	---	---	---	---	---	---	10.5	8.5	9.0	7.9	7.5	5.1
26	---	---	---	---	7.2	6.9	9.8	7.5	9.1	7.0	5.1	4.7
27	---	---	---	---	8.6	6.6	8.0	6.3	9.2	6.7	---	---
28	---	---	---	---	10.6	8.2	6.3	5.4	14.5	9.0	---	---
29	---	---	---	---	14.3	10.0	5.7	4.9	14.0	12.9	---	---
30	---	---	---	---	---	---	5.5	4.1	---	---	---	---
31	---	---	---	---	---	---	6.6	4.1	---	---	---	---

4-1915. AUGLAIZE RIVER NEAR DEFIANCE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	12.0	10.0	7.0	7.0	--	--	3.0	3.0	--	--
2	--	--	12.0	11.0	7.0	7.0	--	--	3.0	3.0	--	--
3	19.0	18.0	12.0	12.0	7.0	7.0	--	--	--	--	--	--
4	18.0	17.0	12.0	11.0	7.0	6.0	--	--	--	--	--	--
5	18.0	17.0	12.0	11.0	6.0	3.0	--	--	--	--	--	--
6	18.0	16.0	12.0	11.0	3.0	3.0	--	--	--	--	--	--
7	16.0	14.0	11.0	11.0	3.0	2.0	--	--	--	--	--	--
8	--	--	11.0	9.0	2.0	1.0	--	--	--	--	--	--
9	--	--	9.0	8.0	2.0	2.0	--	--	--	--	--	--
10	--	--	9.0	8.0	2.0	2.0	--	--	--	--	--	--
11	--	--	8.0	7.0	2.0	2.0	--	--	--	--	--	--
12	--	--	7.0	7.0	2.0	2.0	--	--	--	--	3.0	3.0
13	--	--	7.0	7.0	2.0	1.0	--	--	--	--	4.0	3.0
14	--	--	7.0	6.0	1.0	1.0	--	--	--	--	4.0	3.0
15	--	--	8.0	7.0	1.0	0.0	--	--	--	--	4.0	3.0
16	--	--	7.0	7.0	--	--	--	--	--	--	4.0	3.0
17	19.0	18.0	7.0	7.0	--	--	--	--	--	--	6.0	4.0
18	19.0	18.0	7.0	6.0	--	--	--	--	--	--	9.0	4.0
19	19.0	18.0	6.0	6.0	--	--	--	--	--	--	9.0	6.0
20	18.0	17.0	6.0	6.0	--	--	--	--	--	--	8.0	6.0
21	18.0	17.0	6.0	6.0	--	--	--	--	--	--	8.0	7.0
22	17.0	16.0	6.0	5.0	--	--	--	--	--	--	9.0	7.0
23	16.0	14.0	6.0	6.0	--	--	1.0	1.0	--	--	8.0	7.0
24	14.0	14.0	7.0	6.0	--	--	1.0	1.0	--	--	8.0	8.0
25	14.0	13.0	7.0	6.0	--	--	1.0	1.0	--	--	9.0	8.0
26	13.0	12.0	7.0	6.0	--	--	1.0	1.0	--	--	8.0	6.0
27	12.0	12.0	7.0	7.0	--	--	1.0	1.0	--	--	6.0	5.0
28	12.0	11.0	7.0	6.0	--	--	1.0	1.0	--	--	6.0	5.0
29	11.0	10.0	7.0	7.0	--	--	1.0	1.0	--	--	6.0	5.0
30	12.0	10.0	7.0	6.0	--	--	3.0	1.0	--	--	6.0	5.0
31	11.0	9.0	--	--	--	--	3.0	3.0	--	--	6.0	4.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	18.0	17.0	--	--	26.0	26.0	26.0	24.0	--	--
2	6.0	6.0	20.0	18.0	19.0	18.0	28.0	25.0	25.0	24.0	--	--
3	8.0	6.0	21.0	18.0	--	--	29.0	26.0	24.0	23.0	--	--
4	9.0	7.0	20.0	19.0	--	--	27.0	27.0	24.0	23.0	--	--
5	10.0	9.0	21.0	19.0	20.0	19.0	27.0	27.0	28.0	23.0	--	--
6	13.0	10.0	24.0	19.0	20.0	19.0	27.0	25.0	28.0	25.0	--	--
7	11.0	10.0	24.0	22.0	21.0	20.0	25.0	24.0	27.0	25.0	--	--
8	13.0	11.0	23.0	22.0	21.0	20.0	24.0	23.0	25.0	24.0	--	--
9	13.0	12.0	22.0	20.0	25.0	20.0	23.0	20.0	25.0	24.0	24.0	22.0
10	13.0	13.0	20.0	18.0	23.0	22.0	--	--	26.0	23.0	23.0	22.0
11	15.0	13.0	19.0	17.0	--	--	26.0	24.0	25.0	23.0	23.0	22.0
12	14.0	13.0	17.0	16.0	--	--	27.0	22.0	23.0	23.0	23.0	22.0
13	14.0	13.0	18.0	15.0	--	--	25.0	24.0	27.0	23.0	24.0	22.0
14	14.0	13.0	20.0	17.0	--	--	27.0	25.0	27.0	25.0	23.0	22.0
15	14.0	14.0	19.0	14.0	--	--	27.0	26.0	27.0	25.0	23.0	22.0
16	18.0	14.0	19.0	17.0	--	--	--	--	--	--	23.0	22.0
17	19.0	16.0	18.0	16.0	--	--	29.0	28.0	--	--	22.0	21.0
18	18.0	15.0	18.0	17.0	19.0	18.0	31.0	28.0	--	--	21.0	20.0
19	15.0	11.0	18.0	17.0	--	--	30.0	26.0	--	--	20.0	18.0
20	11.0	11.0	17.0	16.0	--	--	29.0	27.0	25.0	24.0	18.0	18.0
21	13.0	11.0	18.0	17.0	20.0	19.0	28.0	27.0	24.0	24.0	18.0	18.0
22	13.0	12.0	17.0	16.0	20.0	19.0	28.0	27.0	24.0	23.0	22.0	18.0
23	13.0	12.0	19.0	15.0	21.0	20.0	27.0	26.0	23.0	23.0	21.0	20.0
24	14.0	12.0	19.0	16.0	21.0	20.0	27.0	25.0	25.0	23.0	20.0	19.0
25	14.0	11.0	19.0	16.0	25.0	20.0	28.0	26.0	28.0	24.0	19.0	18.0
26	15.0	13.0	17.0	16.0	24.0	22.0	28.0	26.0	26.0	23.0	19.0	18.0
27	16.0	14.0	21.0	17.0	25.0	23.0	26.0	26.0	27.0	23.0	19.0	18.0
28	18.0	16.0	--	--	27.0	25.0	26.0	24.0	28.0	25.0	19.0	17.0
29	17.0	16.0	--	--	27.0	26.0	25.0	24.0	26.0	26.0	19.0	17.0
30	17.0	16.0	--	--	--	--	24.0	23.0	--	--	18.0	17.0
31	--	--	--	--	--	--	25.0	23.0	--	--	--	--

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO

LOCATION.--Lat 41°30'00", long 83°42'46", Lucas County, at gaging station at bridge on State Highway 64 at Waterville, 3 miles downstream from Tontogany Creek. Monitor located in water treatment plant about 1,500 ft upstream from bridge.
DRAINAGE AREA.--6,330 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1950 to February 1952, May 1963 to September 1969.
Water temperatures: March 1950 to September 1969.
Sediment records: April 1950 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 32°C Aug. 24; minimum, freezing point on many days during December and January.
Sediment concentrations: Maximum daily, 715 mg/l Jan. 31; minimum daily, 5 mg/l Oct. 15-18.
Sediment loads: Maximum daily, 125,000 tons Jan. 31; minimum daily, 4.9 tons Oct. 18.
EXTREMES, 1950-69.--Specific conductance (1950-52, 1963-65, 1967-68): Maximum, 1,150 micromhos Dec. 19, 1964; minimum, 213 micromhos Jan. 30, 1952.
pH (1966-67): Maximum, 11.1 Nov. 7, 1966; minimum, 6.1 Feb. 6, May 12, 14, 1967.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
07...	1600	326	254	0	100	34	.6
21...	1600	326	194	24	86	31	.5
NOV.							
04...	1000	365	238	0	99	36	.6
25...	1600	2700	192	10	113	40	.5
DEC.							
16...	1600	2100	224	0	104	29	.4
30...	1600	--	126	0	46	14	.2
JAN.							
06...	1600	11000	160	0	66	18	.2
10...	1330	3000	170	0	69	18	.0
FEB.							
03...	1600	44700	102	0	36	10	.2
24...	1600	1780	224	8	94	27	.4
MAR.							
10...	1600	1710	268	0	121	32	.6
24...	1600	2000	226	0	133	34	.5
APR.							
14...	1600	4120	200	0	86	20	.3
21...	1600	33200	138	0	56	14	.4
MAY							
12...	1600	12800	210	0	89	24	.4
26...	1630	5200	170	0	75	18	.5
JUNE							
12...	1125	3180	222	12	92	29	.4
23...	1600	3130	170	4	63	20	.2
JULY							
07...	1615	6410	160	0	57	18	.2
23...	1530	3650	240	0	79	26	.4
AUG.							
18...	1600	442	182	0	67	26	.5
19...	1200	394	168	0	95	26	.4
SEPT.							
01...	1600	232	200	0	73	31	.7
22...	1600	1500	242	0	124	50	1.3

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

EXTREMES, 1950-69--Continued
Dissolved oxygen (1966-68): Maximum, 15.0 mg/l or greater Oct. 4, 1966, Jan. 2, 6, 1967, Apr. 28, 1968; minimum, 3.1 mg/l May 17, 1968.
Water temperatures: Maximum, 34°C July 1, 1963; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 2,240 mg/l Mar. 26, 1954; minimum daily, 1 mg/l on many days during 1953, 1955 and 1963.
Sediment loads: Maximum daily, 208,000 tons Feb. 12, 1959; minimum daily, 0.26 ton Sept. 18, 1955.
REMARKS.--Continuous water quality recorder operated since May 1963. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on the maximum specific conductance and the minimum specific conductance of the samples collected each month. Daily loads were computed by subdivision on Dec. 28, Jan. 29, Mar. 25, Apr. 6, 18, 19, June 15, July 4, Sept. 19. Flow affected by ice Dec. 12-27, Jan. 4-21, 24-29.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.						
07...	5.1	1.3	438	298	90	681
21...	1.2	.85	398	274	74	600
NOV.						
04...	5.1	1.2	444	284	88	672
25...	28	1.4	466	302	128	700
DEC.						
16...	22	1.0	440	312	128	667
30...	9.0	.72	246	168	65	376
JAN.						
06...	19	.56	320	220	89	468
10...	8.2	.62	346	228	88	481
FEB.						
03...	19	.59	190	138	54	302
24...	16	.82	420	310	113	644
MAR.						
10...	16	1.2	500	348	128	752
24...	.6	.87	470	320	135	698
APR.						
14...	22	.56	402	288	124	572
21...	32	.70	304	194	81	432
MAY						
12...	23	.72	406	298	126	617
26...	25	.47	368	264	125	518
JUNE						
12...	16	.91	398	320	118	644
23...	39	.66	308	259	112	524
JULY						
07...	26	.67	282	232	101	466
23...	22	.86	400	308	111	616
AUG.						
18...	1.7	.67	314	222	73	494
19...	5.8	.76	334	227	90	517
SEPT.						
01...	1.5	.69	310	239	75	546
22...	5.7	.96	460	304	105	986

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	750	700	810	650	680	670	390	340	---	---	---	---
2	760	690	790	610	670	560	400	380	---	---	---	---
3	940	700	810	620	630	520	410	400	---	---	---	---
4	850	680	890	620	670	630	---	---	---	---	---	---
5	770	680	790	710	680	640	---	---	---	---	---	---
6	770	710	770	710	640	610	---	---	---	---	---	---
7	730	650	720	680	610	600	---	---	---	---	---	---
8	940	750	830	630	600	590	---	---	---	---	---	---
9	950	660	770	620	600	590	---	---	---	---	---	---
10	980	580	740	630	610	600	---	---	---	---	---	---
11	780	620	800	640	---	---	---	---	---	---	---	---
12	780	640	740	720	630	580	---	---	---	---	750	730
13	730	620	740	690	680	630	465	420	---	---	730	720
14	760	620	740	700	640	640	500	420	---	---	720	710
15	690	570	850	700	680	640	500	440	---	---	740	660
16	630	500	860	680	700	610	520	500	---	---	680	660
17	730	600	770	670	690	680	520	500	---	---	700	670
18	670	540	820	770	700	690	540	500	---	---	700	650
19	670	530	810	790	690	680	540	380	---	---	670	630
20	660	540	810	790	690	680	450	360	---	---	670	620
21	690	580	820	790	710	690	360	290	---	---	670	630
22	630	540	830	790	720	700	290	240	---	---	670	630
23	670	520	810	770	730	720	---	---	---	---	650	620
24	650	510	780	770	---	---	---	---	---	---	700	650
25	650	520	880	720	---	---	320	300	660	640	700	620
26	820	600	840	780	---	---	350	300	660	650	730	510
27	720	560	780	750	---	---	---	---	---	---	600	470
28	730	630	750	660	680	420	---	---	---	---	620	480
29	690	590	690	600	450	390	---	---	---	---	630	510
30	670	610	690	670	390	360	---	---	---	---	610	530
31	780	620	---	---	---	---	---	---	---	---	580	560

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	580	510	580	540	---	---	640	610	550	510	550	510
2	600	530	580	550	560	520	660	620	650	540	570	510
3	620	500	610	560	620	560	640	590	640	570	570	530
4	630	510	600	570	610	570	630	520	600	540	610	510
5	650	570	610	580	610	590	---	---	570	490	690	500
6	590	490	610	560	630	470	---	---	560	480	540	490
7	570	440	610	560	610	470	---	---	550	500	570	530
8	---	---	620	580	630	590	---	---	580	520	610	510
9	---	---	630	590	620	590	---	---	590	570	630	590
10	---	---	610	570	650	500	---	---	650	500	630	570
11	---	---	620	580	640	610	---	---	590	490	640	590
12	---	---	620	580	650	640	---	---	550	380	650	600
13	---	---	620	580	---	---	---	---	390	350	670	610
14	---	---	580	520	710	650	---	---	420	390	660	610
15	---	---	540	510	---	---	---	---	540	380	670	610
16	---	---	550	500	---	---	---	---	560	460	690	640
17	---	---	540	510	---	---	---	---	570	460	840	660
18	---	---	540	500	470	440	---	---	580	460	760	720
19	---	---	580	520	460	400	---	---	620	480	760	730
20	---	---	---	---	490	390	---	---	530	480	840	760
21	---	---	440	420	500	470	---	---	520	500	940	840
22	---	---	420	400	530	470	---	---	540	500	980	940
23	---	---	440	420	540	500	620	580	570	520	960	900
24	---	---	460	440	530	520	580	460	560	520	940	900
25	490	390	500	460	530	490	540	500	600	500	910	900
26	520	460	540	500	550	530	580	540	560	510	930	910
27	540	440	520	500	590	550	600	540	580	510	930	930
28	550	530	500	480	610	550	600	520	560	520	930	880
29	560	540	520	460	630	600	560	520	570	510	900	840
30	570	540	520	480	660	610	560	510	570	500	840	740
31	---	---	530	510	---	---	560	400	560	510	---	---

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4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.2	8.6	9.1	8.6	8.2	7.8	---	---	---	---	---	---
2	9.3	8.6	9.2	8.6	8.2	8.0	---	---	---	---	---	---
3	9.2	8.8	9.4	8.5	---	7.9	---	---	---	---	---	---
4	9.3	8.7	9.4	8.5	8.9	8.2	---	---	---	---	---	---
5	9.8	8.7	9.0	8.2	8.5	7.6	---	---	---	---	---	---
6	9.0	8.7	8.8	9.4	7.6	6.8	---	---	---	---	---	---
7	9.1	8.3	9.0	8.5	7.5	7.0	---	---	---	---	---	---
8	9.4	8.1	9.8	8.7	7.5	7.0	---	---	---	---	---	---
9	9.4	8.5	9.3	8.9	8.0	7.0	---	---	---	---	---	---
10	9.7	8.8	9.2	8.8	---	---	---	---	---	---	---	---
11	9.6	8.9	9.5	8.5	---	---	---	---	---	---	---	---
12	9.4	9.0	9.3	9.0	---	---	---	---	---	---	9.1	8.6
13	9.1	8.3	9.3	8.9	9.0	8.1	---	---	---	---	10.2	9.7
14	8.8	8.1	9.2	9.0	9.6	8.7	---	---	---	---	10.2	9.0
15	9.1	8.4	9.2	8.9	---	---	---	---	---	---	10.1	8.8
16	8.9	8.7	9.1	9.0	---	---	---	---	---	---	10.0	9.0
17	9.0	8.5	9.3	8.9	---	---	---	---	---	---	9.9	9.4
18	8.9	8.2	9.2	6.7	8.7	8.0	---	---	---	---	10.5	9.4
19	9.2	8.4	9.2	8.1	---	---	---	---	---	---	10.8	10.0
20	9.3	8.5	9.1	7.3	8.6	8.0	---	---	---	---	10.4	9.7
21	9.6	8.6	9.1	6.9	8.7	8.2	---	---	---	---	9.8	9.3
22	9.5	8.9	8.9	5.2	---	---	---	---	---	---	10.1	9.3
23	9.6	9.0	8.9	7.8	---	---	---	---	---	---	10.0	9.6
24	9.7	9.0	8.5	5.0	---	---	---	---	---	---	9.7	9.5
25	9.6	9.0	8.8	8.2	---	---	---	---	---	---	9.6	9.2
26	9.7	9.2	8.6	8.4	---	---	---	---	---	---	9.2	8.5
27	9.7	9.2	8.4	3.3	---	---	---	---	---	---	8.6	8.1
28	9.6	9.2	8.4	8.1	---	---	---	---	---	---	8.5	8.1
29	9.6	9.0	8.1	8.0	8.0	7.3	---	---	---	---	8.9	8.1
30	9.5	8.9	8.2	8.0	---	---	---	---	---	---	8.1	7.4
31	9.3	8.8	---	---	---	---	---	---	---	---	8.4	7.2

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.4	---	---	---	---	8.5	7.1	10.6	9.5	8.8	7.5
2	9.2	9.0	---	---	---	---	8.7	8.0	9.7	8.0	---	---
3	9.4	7.7	---	---	---	---	9.6	7.6	10.4	9.1	---	---
4	8.4	7.5	---	---	---	---	9.0	7.1	10.4	9.0	---	---
5	8.7	8.4	---	---	---	---	8.0	6.8	9.4	8.6	---	---
6	8.7	8.1	---	---	---	---	7.4	6.4	9.7	8.8	8.2	6.9
7	8.7	8.3	---	---	---	---	8.8	5.9	10.0	9.0	8.6	8.0
8	---	---	---	---	---	---	8.3	7.3	9.7	8.8	9.5	8.0
9	---	---	---	---	---	---	7.8	7.1	9.3	8.8	---	---
10	---	---	---	---	---	---	7.7	6.4	9.2	8.7	9.0	7.5
11	---	---	---	---	---	---	7.9	6.6	9.1	7.5	7.5	---
12	---	---	---	---	---	---	7.0	6.0	9.6	8.0	---	---
13	---	---	---	---	---	---	7.7	6.3	10.2	9.5	---	---
14	---	---	---	---	---	---	---	---	9.6	9.0	---	---
15	---	---	---	---	---	---	---	---	9.0	7.5	---	---
16	---	---	---	---	---	---	---	---	7.5	6.5	---	---
17	---	---	---	---	---	---	---	---	8.1	7.2	---	---
18	---	---	---	---	---	---	---	---	8.1	7.2	9.9	8.5
19	---	---	---	---	---	---	---	---	8.4	7.1	9.4	7.1
20	---	---	---	---	---	---	---	---	7.5	7.0	8.5	7.0
21	---	---	---	---	---	---	---	---	7.2	6.4	8.8	7.0
22	8.3	8.0	---	---	---	---	---	---	7.0	6.5	9.8	7.5
23	8.6	8.1	---	---	---	---	8.2	6.6	6.7	6.4	---	---
24	8.6	7.9	---	---	---	---	8.4	7.6	6.7	5.9	---	---
25	8.0	7.7	---	---	---	---	8.1	7.0	10.0	6.2	---	---
26	---	---	---	---	---	---	7.0	6.6	10.0	9.5	---	---
27	---	---	---	---	7.7	7.0	7.1	6.8	9.8	8.9	9.2	8.0
28	---	---	---	---	9.6	7.0	7.5	7.0	9.0	8.1	9.6	8.0
29	---	---	---	---	9.9	8.2	8.1	7.4	8.1	7.0	---	---
30	---	---	---	---	9.2	7.5	8.5	8.0	8.1	6.9	8.2	7.4
31	---	---	---	---	---	---	9.5	8.0	8.2	7.2	---	---

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	4.9	9.6	7.0	11.1	10.4	15.0	15.0	---	---	---	---
2	9.3	5.0	8.7	6.5	12.9	10.3	15.0	15.0	---	---	---	---
3	8.3	5.8	11.1	6.5	11.1	10.4	15.0	9.8	---	---	---	---
4	9.3	6.3	10.5	7.4	10.5	9.2	---	---	---	---	---	---
5	10.0	6.4	11.2	7.3	11.2	9.4	---	---	---	---	---	---
6	9.4	6.6	9.0	7.6	11.2	9.4	---	---	---	---	---	---
7	8.5	6.5	9.1	7.7	10.8	9.7	---	---	---	---	---	---
8	7.3	4.9	10.3	7.6	10.8	10.5	---	---	---	---	---	---
9	7.5	5.4	10.1	7.9	12.7	10.8	---	---	---	---	---	---
10	10.4	6.2	10.5	8.8	13.1	12.7	---	---	---	---	---	---
11	9.0	5.9	12.0	9.6	---	---	---	---	---	---	---	---
12	10.7	6.2	10.5	9.1	14.8	14.2	---	---	---	---	15.0	14.7
13	12.1	6.8	10.4	9.3	15.0	13.7	15.0	15.0	---	---	15.0	15.0
14	11.2	6.5	10.1	9.0	15.0	15.0	15.0	15.0	---	---	15.0	15.0
15	11.4	6.0	9.4	7.8	15.0	15.0	15.0	15.0	---	---	15.0	14.6
16	10.4	5.9	9.5	8.1	15.0	15.0	15.0	15.0	---	---	15.0	15.0
17	10.0	4.9	9.5	8.4	15.0	15.0	15.0	15.0	---	---	15.0	15.0
18	9.6	5.2	10.4	9.0	15.0	15.0	15.0	15.0	---	---	15.0	15.0
19	11.3	5.8	11.5	10.3	15.0	15.0	15.0	15.0	---	---	15.0	15.0
20	12.0	5.7	11.9	11.2	15.0	15.0	15.0	15.0	---	---	15.0	13.5
21	11.2	6.0	12.2	11.5	15.0	15.0	15.0	15.0	---	---	14.7	11.0
22	9.0	5.5	11.9	10.4	15.0	15.0	15.0	15.0	---	---	15.0	12.0
23	10.5	7.0	11.0	10.3	15.0	8.8	15.0	15.0	---	---	15.0	13.0
24	10.9	5.7	10.8	10.0	15.0	8.6	15.0	15.0	---	---	13.5	8.0
25	10.8	6.7	12.7	9.9	---	---	15.0	15.0	14.2	13.2	10.1	9.5
26	11.6	8.0	10.8	10.1	---	---	15.0	15.0	14.4	13.6	10.1	9.0
27	11.6	8.5	10.8	10.3	---	---	---	---	---	---	10.0	9.1
28	10.4	7.5	10.9	9.6	15.0	15.0	---	---	---	---	10.0	9.0
29	9.8	7.2	11.2	10.1	15.0	15.0	---	---	---	---	9.7	8.7
30	10.5	7.1	11.6	10.8	15.0	15.0	---	---	---	---	9.8	9.3
31	10.3	7.4	---	---	15.0	15.0	---	---	---	---	9.9	9.2

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	8.4	7.8	---	---	7.5	6.1	---	---	7.0	3.7
2	---	---	8.8	7.7	---	---	7.3	6.0	---	---	6.2	4.1
3	---	---	8.9	7.6	10.7	9.0	7.8	6.1	8.1	6.8	7.4	4.4
4	---	---	9.2	7.8	11.4	9.4	7.3	5.6	9.2	6.4	7.9	4.1
5	---	---	9.9	7.7	10.8	9.0	6.2	6.0	9.5	5.6	7.9	4.4
6	---	---	10.2	8.1	13.9	10.0	6.7	6.2	8.7	6.0	8.0	4.4
7	---	---	9.2	7.1	15.0	11.0	7.7	6.1	8.0	5.0	7.4	4.7
8	---	---	8.5	6.9	14.0	10.3	7.9	7.0	8.1	5.3	8.0	5.3
9	---	---	8.3	6.8	14.3	10.6	7.6	5.7	7.4	3.1	7.6	5.8
10	---	---	8.0	7.4	11.1	9.5	7.8	5.5	7.6	5.0	8.2	6.6
11	---	---	8.5	7.4	11.0	9.0	7.6	7.2	9.4	5.7	8.7	6.6
12	---	---	8.3	7.9	10.9	8.8	7.8	7.3	10.7	6.6	8.9	6.3
13	---	---	8.0	7.8	9.6	8.0	8.2	7.8	10.7	6.1	8.8	5.9
14	---	---	8.0	7.9	9.3	8.5	8.4	7.4	9.9	5.1	8.4	5.4
15	---	---	8.2	7.8	8.7	7.8	9.0	7.2	9.5	4.5	7.5	4.7
16	---	---	8.0	7.7	8.6	8.0	9.4	7.3	8.9	5.3	5.6	4.5
17	---	---	7.7	7.5	8.1	7.9	13.0	7.3	8.0	4.8	6.3	5.1
18	---	---	7.8	7.6	8.2	7.9	10.7	6.5	8.7	4.7	7.0	5.6
19	---	---	---	---	8.1	7.9	7.6	4.4	8.2	4.5	6.7	5.8
20	---	---	---	---	7.9	7.8	7.6	5.2	8.0	4.7	6.0	5.4
21	---	---	7.9	7.2	8.3	7.9	7.9	6.5	7.7	4.6	7.0	5.3
22	---	---	10.0	7.9	8.6	8.0	7.4	5.7	7.7	4.7	7.0	5.5
23	---	---	9.9	9.7	8.4	7.6	7.4	6.5	7.6	4.5	6.8	5.0
24	---	---	10.3	9.5	8.0	7.5	---	---	6.8	4.5	6.2	4.8
25	9.6	8.3	10.5	10.3	8.0	7.2	---	---	6.7	4.7	7.4	5.2
26	8.4	7.6	10.8	10.4	7.7	7.2	---	---	6.9	4.4	7.9	5.2
27	7.7	7.3	10.8	10.3	7.7	7.0	---	---	7.0	4.2	6.9	5.4
28	8.8	7.3	10.6	10.0	8.4	6.8	---	---	7.0	4.0	7.7	5.3
29	7.9	7.0	10.5	9.7	9.0	7.1	---	---	6.6	4.1	8.2	5.6
30	8.3	7.6	11.8	9.6	8.4	7.0	---	---	6.9	3.8	8.0	5.9
31	---	---	14.5	11.2	---	---	---	---	6.9	3.8	---	---

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	17.0	13.0	9.0	7.0	4.0	2.0	0.0	--	--	--	--
2	22.0	18.0	16.0	10.0	7.0	4.0	2.0	0.0	--	--	--	--
3	20.0	17.0	15.0	10.0	7.0	6.0	2.0	0.0	--	--	--	--
4	18.0	14.0	15.0	11.0	6.0	5.0	--	--	--	--	--	--
5	17.0	13.0	15.0	10.0	8.0	4.0	--	--	--	--	--	--
6	15.0	14.0	13.0	10.0	6.0	2.0	--	--	--	--	--	--
7	15.0	13.0	11.0	9.0	--	--	--	--	--	--	--	--
8	17.0	12.0	10.0	7.0	13.0	10.0	--	--	--	--	--	--
9	18.0	11.0	8.0	3.0	12.0	5.0	--	--	--	--	--	--
10	18.0	13.0	11.0	8.0	9.0	4.0	--	--	--	--	--	--
11	17.0	12.0	8.0	3.0	--	--	--	--	--	--	--	--
12	20.0	13.0	13.0	8.0	--	--	--	--	--	--	3.0	1.0
13	19.0	14.0	9.0	4.0	--	--	0.0	0.0	--	--	4.0	2.0
14	21.0	15.0	8.0	5.0	10.0	4.0	0.0	0.0	--	--	5.0	3.0
15	22.0	16.0	9.0	6.0	8.0	4.0	0.0	0.0	--	--	6.0	3.0
16	21.0	16.0	9.0	7.0	--	--	0.0	0.0	--	--	8.0	5.0
17	22.0	18.0	9.0	7.0	--	--	0.0	0.0	--	--	8.0	6.0
18	19.0	16.0	9.0	7.0	7.0	5.0	0.0	0.0	--	--	8.0	6.0
19	19.0	14.0	8.0	5.0	11.0	7.0	0.0	0.0	--	--	12.0	8.0
20	18.0	14.0	7.0	4.0	7.0	5.0	0.0	0.0	--	--	10.0	8.0
21	18.0	12.0	8.0	4.0	8.0	5.0	0.0	0.0	--	--	8.0	6.0
22	15.0	11.0	8.0	4.0	7.0	5.0	0.0	0.0	--	--	8.0	6.0
23	14.0	10.0	8.0	5.0	--	--	0.0	0.0	--	--	10.0	6.0
24	12.0	10.0	8.0	6.0	--	--	0.0	0.0	--	--	8.0	5.0
25	12.0	9.0	7.0	4.0	--	--	0.0	0.0	1.0	1.0	7.0	6.0
26	9.0	7.0	6.0	4.0	--	--	0.0	0.0	2.0	1.0	6.0	5.0
27	20.0	8.0	7.0	4.0	--	--	--	--	--	--	6.0	5.0
28	18.0	9.0	7.0	4.0	--	--	--	--	--	--	6.0	5.0
29	12.0	5.0	8.0	6.0	2.0	0.0	--	--	--	--	6.0	4.0
30	12.0	3.0	8.0	5.0	2.0	0.0	--	--	--	--	4.0	3.0
31	13.0	4.0	--	--	2.0	0.0	--	--	--	--	4.0	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	15.0	12.0	23.0	21.0	26.0	24.0	26.0	24.0	26.0	21.0
2	6.0	4.0	16.0	13.0	22.0	19.0	27.0	24.0	26.0	24.0	24.0	22.0
3	7.0	5.0	17.0	14.0	19.0	18.0	27.0	24.0	27.0	23.0	25.0	21.0
4	8.0	6.0	18.0	16.0	20.0	18.0	26.0	22.0	27.0	24.0	26.0	22.0
5	10.0	8.0	20.0	17.0	21.0	19.0	24.0	22.0	28.0	24.0	27.0	23.0
6	10.0	8.0	21.0	18.0	22.0	19.0	23.0	21.0	28.0	24.0	28.0	23.0
7	10.0	8.0	21.0	18.0	22.0	20.0	22.0	20.0	27.0	24.0	25.0	23.0
8	12.0	10.0	20.0	18.0	20.0	19.0	22.0	20.0	27.0	24.0	26.0	21.0
9	12.0	10.0	18.0	16.0	21.0	18.0	23.0	21.0	25.0	22.0	23.0	19.0
10	12.0	10.0	16.0	14.0	22.0	20.0	24.0	21.0	26.0	22.0	24.0	18.0
11	12.0	10.0	15.0	14.0	23.0	21.0	24.0	23.0	26.0	21.0	24.0	18.0
12	12.0	10.0	14.0	13.0	24.0	23.0	24.0	23.0	28.0	22.0	24.0	18.0
13	12.0	10.0	15.0	13.0	23.0	21.0	25.0	23.0	28.0	23.0	25.0	18.0
14	12.0	10.0	16.0	13.0	21.0	20.0	26.0	25.0	28.0	23.0	25.0	19.0
15	12.0	12.0	16.0	13.0	20.0	18.0	27.0	24.0	30.0	23.0	25.0	19.0
16	14.0	12.0	18.0	15.0	19.0	17.0	28.0	25.0	28.0	25.0	21.0	20.0
17	16.0	14.0	17.0	16.0	19.0	17.0	28.0	25.0	27.0	24.0	21.0	19.0
18	14.0	12.0	17.0	16.0	19.0	17.0	28.0	25.0	30.0	25.0	21.0	17.0
19	12.0	10.0	18.0	16.0	19.0	17.0	26.0	24.0	30.0	25.0	19.0	18.0
20	10.0	10.0	--	--	19.0	18.0	26.0	24.0	28.0	24.0	20.0	18.0
21	11.0	10.0	17.0	16.0	20.0	18.0	28.0	25.0	28.0	22.0	20.0	19.0
22	11.0	10.0	16.0	15.0	19.0	18.0	27.0	26.0	29.0	23.0	22.0	19.0
23	10.0	10.0	17.0	15.0	19.0	18.0	28.0	26.0	31.0	23.0	22.0	19.0
24	12.0	10.0	18.0	15.0	20.0	19.0	27.0	25.0	32.0	25.0	20.0	19.0
25	12.0	10.0	17.0	16.0	22.0	19.0	27.0	25.0	31.0	25.0	19.0	18.0
26	13.0	10.0	18.0	16.0	24.0	22.0	27.0	25.0	29.0	24.0	20.0	17.0
27	15.0	12.0	18.0	16.0	25.0	23.0	27.0	25.0	29.0	21.0	19.0	17.0
28	15.0	13.0	20.0	18.0	25.0	22.0	25.0	23.0	28.0	22.0	19.0	16.0
29	13.0	12.0	22.0	19.0	26.0	24.0	24.0	23.0	28.0	22.0	18.0	16.0
30	14.0	11.0	23.0	20.0	26.0	24.0	26.0	23.0	28.0	22.0	19.0	16.0
31	--	--	23.0	20.0	--	--	26.0	24.0	27.0	21.0	--	--

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	550	10	15	340	10	9.2	7000	45	851
2	500	10	14	350	10	9.5	6400	97	1680
3	490	10	13	350	10	9.5	5800	109	1710
4	470	10	13	340	10	9.2	5300	83	1190
5	500	10	14	330	10	8.9	4900	79	1050
6	600	10	16	340	9	8.3	4000	75	810
7	500	10	14	350	9	8.5	3500	69	652
8	400	9	9.7	360	9	8.7	3000	65	527
9	330	8	7.1	400	8	8.6	2400	62	402
10	420	8	9.1	700	8	15	1900	57	292
11	490	7	9.3	600	7	11	1700	53	243
12	470	7	8.9	550	8	12	1800	49	238
13	450	7	8.5	500	11	15	1700	45	207
14	430	6	7.0	550	13	19	1500	41	166
15	410	5	5.5	500	14	19	1400	37	140
16	380	5	5.1	600	14	23	1300	32	112
17	370	5	5.0	800	15	32	1300	27	95
18	360	5	4.9	3600	17	165	1400	24	91
19	360	6	5.8	5200	18	253	1500	21	85
20	350	6	5.7	5500	20	297	1500	20	81
21	340	7	6.4	4800	23	298	1500	18	73
22	330	7	6.2	3900	25	263	1600	16	69
23	320	7	6.0	3100	27	226	1800	12	58
24	300	8	6.5	2600	27	190	2100	13	74
25	320	9	7.8	2200	28	166	2000	15	81
26	350	10	9.5	1900	29	149	2300	16	99
27	380	10	10	1700	30	138	3200	15	130
28	360	10	9.7	2000	33	178	15700	223	13600
29	320	10	8.6	4000	35	378	36000	634	61600
30	300	10	8.1	7500	41	830	38500	550	57200
31	320	10	8.6	--	--	--	33500	320	28900
TOTAL	12470	--	278.0	55960	--	3757.4	197500	--	172506

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	24400	202	13300	67500	486	88600	2180	13	77
2	15300	103	4250	59900	293	47400	2000	14	76
3	9220	49	1220	46900	198	25100	1880	13	66
4	8000	100	2160	32000	147	12700	1760	13	62
5	9400	118	2990	24100	121	7870	1640	13	58
6	11000	138	4100	19900	92	4940	1660	13	58
7	13000	165	5790	13700	87	3220	1590	12	52
8	7000	88	1660	9760	71	1870	1430	12	46
9	4000	54	583	7220	54	1050	1570	13	55
10	3000	42	340	5540	46	688	1610	14	61
11	2300	35	217	4490	41	497	1550	14	59
12	2200	35	208	3790	36	368	1430	14	54
13	2100	34	193	3540	32	306	1430	14	54
14	2100	34	193	3620	28	274	1520	15	62
15	2000	32	173	3240	25	219	1230	15	50
16	2000	32	173	2590	20	140	1090	14	41
17	5000	32	432	2510	18	122	1320	15	53
18	15000	72	2920	2100	17	96	1090	16	47
19	41000	186	20600	1930	14	73	1030	17	47
20	55000	168	24900	1900	13	67	1450	18	70
21	50000	143	19300	1680	11	50	1360	20	73
22	33400	133	12000	1660	10	45	1320	21	75
23	25200	112	7620	1680	8	36	1830	48	237
24	23000	110	6830	1710	8	37	1980	42	225
25	20000	157	8480	1660	9	40	5140	77	1210
26	17000	117	5370	1780	10	48	14300	186	7180
27	13000	107	3760	1980	11	59	16400	143	6330
28	12000	75	2430	2050	12	66	14100	83	3160
29	23000	87	6060	--	--	--	11300	62	1890
30	58100	630	98800	--	--	--	8910	54	1300
31	64500	715	125000	--	--	--	6800	50	918
TOTAL	572220	--	382052	330430	--	195981	113900	--	23746

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	5710	46	709	3370	41	373	2100	32	181
2	5080	42	576	3130	37	313	2490	27	182
3	5320	40	575	3080	33	274	2780	33	248
4	5410	37	540	2810	27	205	2280	42	259
5	5850	38	600	2640	26	185	2180	43	253
6	13000	107	3930	2570	34	236	2360	43	274
7	19200	244	12600	2230	37	223	2230	42	253
8	18900	318	16200	2640	37	264	2030	40	219
9	14400	312	12100	3180	37	318	2050	40	221
10	10300	201	5590	3540	51	487	3370	39	355
11	7660	118	2440	9400	70	1780	3820	38	392
12	6200	107	1790	12500	94	3170	3180	38	326
13	4990	73	984	11700	129	4080	2810	38	288
14	4150	54	605	10000	121	3270	3930	44	467
15	3650	47	463	7600	78	1600	8950	102	2600
16	3260	45	396	6000	60	972	16400	238	10500
17	2890	43	336	5000	52	702	14700	331	13100
18	4040	56	655	5600	52	786	8260	235	5240
19	21300	224	14900	16000	102	4410	6480	222	3880
20	35800	492	47600	27000	288	21000	5780	228	3560
21	34400	350	32500	26000	382	26800	4380	159	1880
22	26400	273	19500	22600	326	19900	3050	112	922
23	17800	202	9710	15800	194	8280	3050	92	758
24	12000	149	4830	9940	128	3440	3480	77	723
25	9580	118	3050	7620	89	1830	3700	72	719
26	7860	89	1890	5470	69	1020	4210	68	773
27	6270	69	1170	4350	60	705	3560	65	625
28	4990	61	822	3480	53	498	3080	63	524
29	4240	53	607	2750	48	356	2640	60	428
30	3870	46	481	2200	42	249	2670	56	404
31	--	--	--	1980	37	198	--	--	--
TOTAL	324520	--	198149	242180	--	107924	132000	--	50554

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS
1	2150	53	308	1710	81.	374	242	39	25
2	1850	50	250	1450	72	282	294	39	31
3	1500	48	194	1190	61	196	224	38	23
4	2100	68	491	1030	57	159	192	38	20
5	6760	268	4890	902	56	136	260	37	26
6	6940	278	5210	734	55	109	268	35	25
7	6100	305	5020	734	57	113	308	33	27
8	7860	193	4100	670	57	103	319	24	21
9	10900	334	9830	505	55	75	479	23	30
10	9130	240	5920	586	55	87	534	24	35
11	6450	165	2870	480	55	71	411	25	28
12	5050	152	2070	430	53	62	345	26	24
13	4440	136	1630	468	52	66	266	26	19
14	3370	123	1120	418	49	55	236	27	17
15	2490	110	740	361	47	46	224	28	17
16	2000	100	540	468	43	54	205	27	15
17	1680	92	417	530	40	57	370	26	26
18	1450	82	321	468	38	48	479	25	32
19	1900	74	380	418	39	44	1960	60	378
20	2620	65	460	372	41	41	2880	92	715
21	2620	60	424	409	42	46	2070	62	347
22	3560	57	548	407	42	46	1560	45	190
23	3760	61	619	385	42	44	1110	41	123
24	2940	66	524	377	44	45	1020	40	110
25	2310	78	486	361	46	45	843	40	91
26	2130	94	541	303	46	38	924	39	97
27	1950	107	563	251	45	30	1010	36	98
28	2490	112	753	221	43	26	950	34	87
29	3480	104	977	252	40	27	812	32	70
30	2700	95	693	225	38	23	1260	29	99
31	2080	88	494	220	38	23	--	--	--
TOTAL	116760	--	53383	17335	--	2571	22055	--	2846

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 2137330
TOTAL LOAD FOR YEAR (TONS) 1193747.4

4-1935. MAUMEE RIVER AT WATERVILLE, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMPERATURE (C)	DISCHARGE (CFS)	CONCENTRATION (MG/L)	SUSPENDED SEDIMENT DISCHARGE (TONS/DAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALYSIS
DEC 29, 1968	0920	1.0	36600	678	67000	72	78	89	95	97	99	100	--	--	--	--	SBWC
JAN 31, 1969	1630	2.0	65800	712	126000	83	86	93	95	97	98	100	--	--	--	--	SBWC
APR 9.....	0720	11.0	15200	334	13700	76	83	90	96	97	98	99	100	--	--	--	SBWC
MAY 21.....	1250	17.0	25800	350	24400	67	76	86	94	98	100	--	--	--	--	--	SBWC

4-1940.22. MAUMEE RIVER AT TOLEDO OVERSEAS TERMINAL DOCK, AT TOLEDO, OHIO

LOCATION.--Lat 41°41'06", long 83°28'35", Lucas County, at Toledo Overseas Terminal dock at Toledo, about 1 mile upstream from the mouth.
PERIOD OF RECORD.--Chemical analyses: October 1962 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	SUSPENDED SOLIDS (MG/L)
OCT.										
01...	0915	20	186	0	78	27	2.6	.92	302	34
09...	0830	--	154	4	66	29	--	--	--	24
16...	0945	--	170	0	69	33	--	--	--	18
24...	0845	--	176	0	67	32	--	--	--	34
30...	0830	--	156	0	62	32	--	--	--	62
NOV.										
06...	0900	--	160	0	73	40	--	--	--	31
13...	0945	--	226	0	103	44	--	--	--	90
20...	0945	--	238	0	104	40	--	--	--	92
27...	0830	53	228	0	129	56	23	4.2	496	51
DEC.										
03...	0945	20	186	4	99	33	25	.87	424	46
11...	0900	--	180	0	97	28	--	--	--	--
JAN.										
22...	0900	--	96	0	50	26	--	--	--	100
29...	0900	14	128	0	60	27	22	.56	308	40
FEB.										
06...	0900	--	104	0	45	13	--	--	--	108
13...	0845	--	152	0	63	19	--	--	--	60
19...	0845	--	178	0	75	22	--	--	--	41
26...	0830	14	202	0	87	23	17	.72	384	7
MAR.										
05...	0850	--	212	0	100	36	--	--	--	15
13...	0845	26	264	0	118	36	9.2	1.5	476	17
19...	0845	--	192	0	79	34	--	--	--	28
26...	0830	--	184	0	108	37	--	--	--	51
APR.										
02...	0845	12	160	0	82	26	34	.68	344	--
09...	0945	--	154	0	77	22	--	--	--	--
16...	0930	--	176	0	79	21	--	--	--	--
23...	0845	--	127	0	54	12	--	--	--	--
30...	--	--	174	0	71	21	--	--	--	--
MAY										
09...	--	--	--	--	--	--	--	--	--	25
14...	--	--	188	6	88	32	--	2.2	406	79
21...	0845	--	168	0	74	24	--	--	--	139
28...	0830	--	160	0	68	18	--	--	--	55
JUNE										
04...	0900	--	176	0	69	22	--	--	--	175
11...	0800	14	212	0	82	24	19	.57	352	45
25...	0830	--	158	0	61	18	--	--	--	48
JULY										
16...	0900	--	180	0	71	24	--	--	--	--
23...	0845	--	196	0	68	24	--	--	--	--
30...	0900	16	216	0	72	26	15	.96	346	--
AUG.										
06...	0845	--	204	0	80	32	24	1.2	384	--
13...	0830	--	208	0	76	38	--	--	--	--
20...	0830	--	156	0	62	30	--	--	--	--
22...	0915	--	162	0	72	34	--	--	--	--
SEPT.										
03...	0900	--	116	0	60	30	--	--	--	--
10...	0830	--	156	20	64	38	--	--	--	--
17...	0900	--	120	0	59	31	--	--	--	--
24...	0845	--	180	0	79	40	7.2	.86	344	--

4-1940.22. MAUMEE RIVER AT TOLEDO OVERSEAS TERMINAL DOCK, AT TOLEDO, OHIO--Continued

REMARKS.--Determinations of suspended solids and dissolved oxygen (DO) furnished by the city of Toledo, Division of Sewage Disposal. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	COLOR (PLATI-INUM-COBALT UNITS)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.										
01...	237	84	530	7.5	21	20	3.8	42	--	.20
09...	202	70	496	8.4	17	20	3.3	34	--	--
16...	210	71	530	8.1	15	15	2.8	30	--	--
24...	216	72	518	7.4	15	15	4.6	46	--	--
30...	203	75	472	7.3	10	10	8.2	72	--	--
NOV.										
06...	202	71	549	8.0	13	10	2.6	24	--	--
13...	276	90	691	7.4	10	15	4.6	41	--	--
20...	280	84	683	7.8	6	25	10.6	85	--	--
27...	305	118	816	7.4	7	25	9.6	79	--	.20
DEC.										
03...	280	121	630	8.4	7	30	10.9	89	--	.08
11...	270	122	602	8.2	2	30	--	--	--	--
JAN.										
22...	142	64	377	7.1	1	50	11.4	79	--	--
29...	190	85	453	7.3	1	25	12.3	85	--	.10
FEB.										
06...	155	70	342	7.3	1	84	12.5	87	--	--
13...	208	84	454	7.4	0	45	13.0	89	--	--
19...	244	98	522	8.0	2	30	12.7	91	--	--
26...	270	104	584	7.5	2	12	11.9	86	--	.07
MAR.										
05...	295	121	674	8.2	4	20	11.2	85	9.0	--
13...	340	123	762	7.6	4	15	14.3	110	11	.09
19...	232	74	557	7.5	6	10	13.3	106	10	--
26...	272	121	623	7.4	7	20	14.0	115	12	--
APR.										
02...	264	133	582	7.8	4	30	--	--	--	.09
09...	239	113	532	7.7	12	38	--	--	--	--
16...	254	110	556	7.5	15	30	--	--	--	--
23...	191	87	427	7.4	9	30	--	--	--	--
30...	241	98	531	7.3	--	25	--	--	--	--
MAY										
09...	--	--	--	--	19	--	6.9	73	4.0	--
14...	308	144	597	8.4	14	35	9.1	88	3.0	.09
21...	272	134	531	7.4	16	40	7.6	77	3.0	--
28...	252	121	489	7.3	18	35	6.8	72	2.0	--
JUNE										
04...	240	96	512	7.3	19	25	4.4	47	11	--
11...	287	113	593	8.1	20	20	5.2	56	4.0	.08
25...	234	104	504	7.3	20	30	5.6	61	4.6	--
JULY										
16...	256	108	543	7.4	27	30	--	--	--	--
23...	260	99	549	7.9	26	30	--	--	--	--
30...	274	97	590	7.5	26	20	--	--	--	.14
AUG.										
06...	273	106	609	7.3	26	20	--	--	--	.08
13...	244	74	596	7.6	25	20	--	--	--	--
20...	200	72	493	7.2	24	15	--	--	--	--
22...	225	92	541	7.8	26	15	--	--	--	--
SEPT.										
03...	182	87	447	7.5	26	15	--	--	--	--
10...	204	42	538	8.8	24	15	--	--	--	--
17...	164	66	433	7.6	22	10	--	--	--	--
24...	254	106	587	7.2	20	20	--	--	--	.10

4-1940.23. MAUMEE RIVER AT MOUTH, AT U.S. COAST GUARD STATION, AT TOLEDO, OHIO

LOCATION.--Lat 41°41'35", long 83°28'20", on left bank at entrance of channel to U.S. Coast Guard and Toledo Yacht Club, in Bay View Park, across the river from C. and O. docks, and 2,500 ft downstream from Toledo Sewage Disposal plant.
DRAINAGE AREA.--6,608 sq mi.
PERIOD OF RECORD.--Chemical analyses: February 1967 to September 1969.
Water temperatures: February 1967 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 860 micromhos Nov. 26; minimum, 260 micromhos Dec. 31, Jan. 1, 2.
Water temperatures: Maximum, 28°C Aug. 20; minimum, freezing point on several days during December and January.
EXTREMES, 1967-69.--Specific conductance: Maximum, 940 micromhos Nov. 5, 1967; minimum, 210 micromhos Dec. 23, 1967.
Dissolved oxygen (1967-68): Maximum, 14.4 mg/l Sept. 4, 1967; minimum, 0.0 mg/l on many days during June to September 1967.
Water temperatures: Maximum, 30°C Aug. 24, 1968; minimum, freezing point on several days during 1967 to 1969.
REMARKS.--Continuous water quality recorder operated since February 1967. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Considerable industrial pollution from upstream and Toledo sources and from sewage disposal plant. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.												
08...	1030	140	0	58	30	.4	9.8	286	185	70	480	6.9
16...	0945	180	0	79	39	.6	6.9	362	225	77	588	--
NOV.												
07...	1000	148	0	55	32	.4	6.8	272	180	59	467	7.0
26...	0830	212	8	125	56	1.0	21	526	315	128	832	8.3
DEC.												
03...	1000	192	0	98	39	.5	22	400	266	108	655	7.1
27...	--	156	0	68	29	.3	18	306	230	102	525	7.7
JAN.												
21...	0930	148	0	71	25	.3	19	290	206	85	488	7.2
31...	0935	108	0	38	17	.2	15	204	140	52	336	7.2
FEB.												
03...	1315	96	0	39	17	.2	20	222	136	58	332	7.0
26...	1015	190	0	85	29	.4	22	352	258	102	601	7.1
MAR.												
17...	1600	259	0	117	38	.7	9.8	476	344	132	766	7.4
24...	1320	164	0	71	27	.5	5.2	286	208	74	493	7.4
APR.												
07...	1600	196	0	90	30	.4	24	392	290	129	615	7.5
24...	1415	140	0	61	17	.4	32	306	214	100	450	7.4
MAY												
09...	1045	204	0	90	30	.4	16	402	222	55	617	7.3
26...	1045	146	0	60	16	.3	31	312	212	92	461	8.0
JUNE												
13...	1200	180	0	87	27	.4	13	398	268	120	571	7.2
23...	1400	158	0	69	21	.3	36	364	252	122	522	7.1
JULY												
09...	1830	156	0	54	21	.4	27	324	210	82	464	8.0
28...	0930	212	0	73	28	.5	25	414	271	97	600	7.2
AUG.												
07...	0930	202	0	88	31	.6	23	354	262	96	617	7.4
27...	0950	146	0	68	32	.5	17	278	196	76	504	7.4
SEPT.												
08...	1000	118	0	59	32	.6	16	274	162	66	458	7.5
29...	1715	162	0	90	54	1.0	21	420	235	102	666	7.8

4-1940.23. MAUMEE RIVER AT MOUTH, AT U.S. COAST GUARD STATION, AT TOLEDO, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	590	390	620	500	780	700	380	260	---	---	550	470
2	610	400	570	430	740	620	340	260	---	---	600	490
3	630	450	550	440	680	640	---	---	---	---	620	440
4	640	350	550	460	680	620	---	---	---	---	640	500
5	500	340	550	450	690	530	---	---	---	---	690	620
6	560	360	500	400	---	---	---	---	---	---	710	620
7	620	340	600	420	---	---	---	---	---	---	730	620
8	500	380	690	570	---	---	---	---	---	---	760	600
9	510	380	710	610	---	---	---	---	---	---	740	610
10	600	420	650	560	---	---	---	---	---	---	700	680
11	530	450	650	600	---	---	---	---	---	---	740	700
12	540	420	680	520	700	600	---	---	---	---	770	730
13	560	440	710	600	680	500	---	---	---	---	760	720
14	570	470	740	640	670	470	---	---	---	---	720	710
15	620	440	730	630	640	500	---	---	---	---	780	720
16	640	400	650	370	670	530	---	---	480	450	790	750
17	600	420	620	420	640	550	---	---	500	460	790	760
18	540	430	650	560	630	530	---	---	490	480	830	730
19	580	480	650	570	680	550	---	---	530	490	790	530
20	590	370	700	650	700	400	---	---	520	500	760	510
21	580	460	800	690	620	380	---	---	540	500	740	560
22	690	490	790	570	640	380	---	---	550	500	680	380
23	740	380	810	690	760	560	---	---	570	530	700	430
24	560	400	820	800	660	420	---	---	630	550	670	410
25	530	460	820	770	580	360	---	---	610	590	580	500
26	610	510	860	790	780	380	---	---	610	580	650	530
27	700	600	850	750	680	480	---	---	590	540	750	620
28	680	470	800	580	560	520	---	---	560	470	740	580
29	550	400	800	740	760	460	---	---	---	---	650	550
30	490	450	790	770	540	300	---	---	---	---	620	530
31	570	470	---	---	520	260	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	650	610	540	520	590	500	590	540	610	580	510	420
2	650	600	660	530	550	520	580	540	600	570	480	410
3	620	590	640	560	570	520	600	560	600	580	490	400
4	680	610	580	530	560	480	640	560	610	590	450	420
5	650	600	590	520	560	480	---	---	600	580	600	440
6	630	610	580	520	580	500	---	---	610	560	600	390
7	640	600	620	560	560	510	---	---	670	610	540	490
8	630	580	630	580	550	500	---	---	680	600	490	440
9	630	510	630	580	570	520	470	450	650	520	510	470
10	600	490	610	460	590	550	580	420	610	490	570	430
11	560	500	650	580	650	570	580	500	580	560	550	400
12	530	490	720	580	650	580	550	490	590	510	560	400
13	530	510	670	600	610	570	540	510	580	520	510	360
14	530	510	610	600	620	550	570	540	610	540	500	380
15	670	520	650	450	660	580	590	570	610	520	490	360
16	600	540	610	550	740	610	600	590	590	480	490	380
17	600	550	640	550	720	590	600	580	580	500	460	370
18	580	520	610	550	660	540	---	---	590	520	460	380
19	590	550	590	550	620	530	---	---	620	450	500	400
20	600	490	590	550	580	520	---	---	540	440	560	420
21	520	410	590	530	560	510	---	---	540	460	590	530
22	510	410	560	420	540	500	---	---	580	490	600	520
23	510	420	520	420	540	500	---	---	620	540	660	580
24	480	430	520	420	540	520	---	---	580	490	620	560
25	600	480	510	450	540	520	---	---	570	470	---	---
26	610	490	490	450	620	530	---	---	590	430	---	---
27	590	480	540	490	600	540	---	---	520	440	---	---
28	580	480	620	540	580	540	610	580	620	500	---	---
29	560	510	640	540	540	520	630	560	620	400	700	700
30	560	520	580	540	570	540	620	580	570	400	690	690
31	---	---	560	520	---	---	610	570	540	390	---	---

4-1940.23. MAUMEE RIVER AT MOUTH, AT U.S. COAST GUARD STATION, AT TOLEDO, OHIO--Continued

DISSOLVED OXYGEN(DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.0	0.0	4.5	2.3	8.5	7.6	---	---	---	---	---	---
2	2.6	0.1	4.3	1.8	9.7	8.2	---	---	---	---	---	---
3	1.9	0.1	4.7	1.1	10.0	8.3	---	---	---	---	---	---
4	5.6	0.1	7.5	1.0	10.0	9.2	---	---	---	---	---	---
5	5.5	1.1	7.1	1.3	10.6	9.0	---	---	---	---	---	---
6	1.8	0.1	9.8	3.4	---	---	---	---	---	---	---	---
7	2.3	0.5	9.7	1.0	---	---	---	---	---	---	---	---
8	4.5	0.3	2.7	0.7	---	---	---	---	---	---	---	---
9	4.0	0.2	3.0	0.2	---	---	---	---	---	---	---	---
10	1.1	0.1	3.5	1.4	---	---	---	---	---	---	---	---
11	1.4	0.1	3.2	0.9	---	---	---	---	---	---	---	---
12	1.7	0.1	6.5	0.4	---	---	---	---	---	---	---	---
13	2.5	0.0	2.9	0.8	---	---	---	---	---	---	---	---
14	1.3	0.0	2.9	1.2	---	---	---	---	---	---	---	---
15	1.9	0.1	3.4	0.5	---	---	---	---	---	---	---	---
16	3.3	0.3	9.6	1.7	---	---	---	---	---	---	---	---
17	3.1	0.2	7.5	2.6	---	---	---	---	---	---	---	---
18	2.1	0.3	7.9	2.4	---	---	---	---	---	---	---	---
19	2.1	0.1	9.8	5.9	---	---	---	---	---	---	---	---
20	4.2	0.1	10.4	7.2	---	---	---	---	---	---	---	---
21	1.7	0.1	10.9	9.1	---	---	---	---	---	---	---	---
22	3.8	0.1	10.8	9.0	---	---	---	---	---	---	---	---
23	8.3	1.8	11.2	9.0	---	---	---	---	---	---	---	---
24	7.3	2.8	10.1	9.1	---	---	---	---	---	---	---	---
25	4.0	1.8	10.5	9.3	---	---	---	---	---	---	10.8	9.6
26	2.1	0.4	9.9	7.8	---	---	---	---	---	---	13.3	9.2
27	4.9	1.7	10.5	8.5	---	---	---	---	---	---	13.4	10.5
28	6.3	2.8	10.7	7.0	---	---	---	---	---	---	11.1	10.1
29	7.9	4.6	8.8	7.5	---	---	---	---	---	---	11.6	10.0
30	7.2	5.0	8.0	6.9	---	---	---	---	---	---	11.0	9.9
31	6.1	2.8	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.1	10.4	7.7	5.7	4.5	2.5	5.2	3.1	3.9	2.0	---	---
2	11.5	10.2	8.1	6.0	4.5	2.3	4.7	1.7	2.3	1.0	---	---
3	11.5	10.5	7.9	6.2	4.6	2.1	---	---	1.5	0.2	---	---
4	10.9	9.2	7.6	4.7	4.4	2.3	---	---	1.5	0.5	---	---
5	10.8	9.7	8.9	6.4	4.6	2.7	---	---	---	---	---	---
6	11.0	9.9	8.8	7.0	3.3	2.0	---	---	---	---	---	---
7	10.5	9.6	7.5	6.0	4.0	1.9	---	---	---	---	---	---
8	10.6	9.1	6.9	5.1	7.2	2.5	---	---	---	---	---	---
9	9.4	8.1	8.8	4.8	4.5	2.3	4.6	3.6	---	---	---	---
10	9.3	8.0	8.4	5.9	4.7	1.6	5.3	2.9	---	---	---	---
11	8.3	7.5	10.3	6.0	4.6	2.2	4.7	2.6	---	---	---	---
12	8.3	7.1	12.1	9.8	4.3	2.6	4.0	2.5	---	---	---	---
13	8.1	6.2	11.4	10.2	4.5	2.3	3.9	2.5	---	---	---	---
14	8.0	6.2	10.9	9.4	5.1	2.0	5.0	2.8	---	---	---	---
15	7.5	5.4	11.6	8.2	5.2	3.1	4.0	1.9	---	---	---	---
16	6.9	5.8	9.6	5.6	4.8	3.2	4.5	1.0	---	---	---	---
17	6.5	4.4	6.7	5.1	3.8	1.6	2.8	1.5	---	---	---	---
18	9.1	5.2	8.0	5.0	2.2	0.1	---	---	---	---	---	---
19	9.2	6.6	6.5	4.4	0.6	0.1	---	---	---	---	---	---
20	9.5	8.6	7.1	5.4	0.5	0.1	---	---	---	---	---	---
21	9.3	8.4	7.2	4.5	3.0	0.4	---	---	---	---	---	---
22	9.4	8.8	7.2	5.4	5.5	2.4	---	---	---	---	---	---
23	9.5	8.6	7.0	4.0	6.0	2.8	---	---	---	---	---	---
24	9.5	8.5	6.4	4.5	5.3	2.8	---	---	---	---	---	---
25	10.2	8.0	6.3	4.2	8.7	2.7	---	---	---	---	---	---
26	9.2	7.8	6.7	5.4	6.5	3.1	---	---	---	---	---	---
27	9.0	7.7	6.2	4.5	6.4	3.9	---	---	---	---	---	---
28	8.9	6.5	5.7	4.2	4.8	3.3	3.2	1.5	---	---	---	---
29	8.5	6.5	5.3	3.5	6.9	3.3	2.2	1.3	---	---	---	---
30	7.5	6.0	4.6	2.7	4.3	3.0	2.2	0.9	---	---	---	---
31	---	---	3.1	1.9	---	---	3.1	0.7	---	---	---	---

4-1940.23. MAUMEE RIVER AT MOUTH, AT U.S. COAST GUARD STATION, AT TOLEDO, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	20.0	14.0	11.0	7.0	6.0	0.0	0.0	--	--	3.0	1.0
2	22.0	20.0	13.0	12.0	7.0	6.0	0.0	0.0	--	--	4.0	3.0
3	21.0	20.0	13.0	11.0	7.0	6.0	--	--	--	--	4.0	3.0
4	20.0	17.0	13.0	11.0	7.0	6.0	--	--	--	--	4.0	3.0
5	18.0	16.0	13.0	11.0	6.0	4.0	--	--	--	--	5.0	4.0
6	17.0	16.0	12.0	10.0	--	--	--	--	--	--	5.0	4.0
7	17.0	15.0	13.0	10.0	--	--	--	--	--	--	5.0	4.0
8	17.0	16.0	13.0	12.0	--	--	--	--	--	--	4.0	4.0
9	18.0	16.0	12.0	10.0	--	--	--	--	--	--	4.0	3.0
10	18.0	17.0	11.0	10.0	--	--	--	--	--	--	5.0	4.0
11	18.0	16.0	11.0	9.0	--	--	--	--	--	--	5.0	4.0
12	18.0	17.0	11.0	8.0	5.0	3.0	--	--	--	--	5.0	4.0
13	18.0	17.0	11.0	9.0	4.0	3.0	--	--	--	--	6.0	4.0
14	19.0	18.0	11.0	9.0	3.0	2.0	--	--	--	--	5.0	4.0
15	20.0	18.0	12.0	9.0	2.0	1.0	--	--	--	--	6.0	4.0
16	20.0	18.0	10.0	8.0	3.0	1.0	--	--	2.0	2.0	6.0	4.0
17	21.0	18.0	11.0	8.0	3.0	2.0	--	--	2.0	1.0	6.0	4.0
18	20.0	19.0	11.0	8.0	3.0	1.0	--	--	3.0	2.0	7.0	5.0
19	20.0	18.0	9.0	7.0	4.0	2.0	--	--	3.0	2.0	8.0	6.0
20	19.0	18.0	7.0	7.0	4.0	2.0	--	--	3.0	2.0	8.0	6.0
21	18.0	18.0	7.0	5.0	3.0	1.0	--	--	3.0	2.0	7.0	6.0
22	18.0	17.0	6.0	4.0	3.0	1.0	--	--	3.0	2.0	8.0	6.0
23	18.0	14.0	7.0	6.0	4.0	1.0	--	--	4.0	3.0	9.0	7.0
24	15.0	13.0	7.0	6.0	1.0	1.0	--	--	5.0	3.0	9.0	7.0
25	14.0	14.0	6.0	6.0	1.0	0.0	--	--	4.0	3.0	8.0	7.0
26	16.0	14.0	7.0	6.0	1.0	1.0	--	--	4.0	3.0	8.0	7.0
27	15.0	14.0	7.0	6.0	2.0	1.0	--	--	4.0	3.0	8.0	6.0
28	14.0	12.0	9.0	6.0	3.0	1.0	--	--	3.0	2.0	8.0	6.0
29	12.0	10.0	8.0	7.0	1.0	0.0	--	--	--	--	7.0	6.0
30	11.0	10.0	8.0	7.0	1.0	0.0	--	--	--	--	6.0	4.0
31	11.0	10.0	--	--	1.0	0.0	--	--	--	--	--	--

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	16.0	14.0	23.0	21.0	25.0	23.0	26.0	25.0	26.0	26.0
2	6.0	4.0	16.0	14.0	22.0	21.0	24.0	24.0	26.0	25.0	26.0	24.0
3	6.0	4.0	17.0	15.0	21.0	19.0	26.0	24.0	26.0	25.0	26.0	24.0
4	8.0	6.0	17.0	16.0	21.0	19.0	25.0	24.0	26.0	25.0	26.0	24.0
5	9.0	7.0	18.0	16.0	21.0	19.0	--	--	26.0	26.0	27.0	26.0
6	10.0	8.0	18.0	16.0	21.0	19.0	--	--	26.0	26.0	27.0	26.0
7	11.0	9.0	19.0	17.0	21.0	20.0	--	--	27.0	26.0	27.0	26.0
8	12.0	9.0	19.0	18.0	21.0	18.0	--	--	26.0	25.0	26.0	25.0
9	12.0	11.0	19.0	17.0	21.0	18.0	22.0	21.0	26.0	25.0	26.0	24.0
10	12.0	11.0	18.0	16.0	21.0	19.0	23.0	21.0	26.0	24.0	24.0	23.0
11	12.0	11.0	17.0	15.0	22.0	20.0	24.0	22.0	26.0	24.0	24.0	23.0
12	12.0	11.0	16.0	14.0	22.0	21.0	24.0	23.0	26.0	25.0	24.0	22.0
13	13.0	12.0	15.0	13.0	22.0	21.0	26.0	24.0	27.0	25.0	23.0	22.0
14	13.0	11.0	16.0	14.0	21.0	19.0	26.0	24.0	26.0	26.0	23.0	22.0
15	14.0	12.0	17.0	15.0	21.0	18.0	26.0	24.0	27.0	26.0	23.0	22.0
16	14.0	13.0	17.0	15.0	20.0	18.0	26.0	25.0	27.0	26.0	23.0	22.0
17	16.0	14.0	17.0	16.0	19.0	18.0	26.0	26.0	27.0	26.0	23.0	21.0
18	16.0	13.0	18.0	17.0	19.0	18.0	--	--	27.0	26.0	22.0	20.0
19	14.0	11.0	18.0	17.0	19.0	18.0	--	--	27.0	27.0	22.0	20.0
20	12.0	11.0	17.0	17.0	20.0	19.0	--	--	28.0	25.0	22.0	19.0
21	11.0	11.0	18.0	17.0	20.0	18.0	--	--	27.0	25.0	22.0	21.0
22	11.0	10.0	17.0	16.0	19.0	19.0	--	--	27.0	26.0	22.0	21.0
23	11.0	9.0	17.0	16.0	19.0	19.0	--	--	27.0	26.0	22.0	21.0
24	11.0	9.0	17.0	16.0	19.0	19.0	--	--	27.0	26.0	21.0	20.0
25	12.0	9.0	18.0	16.0	21.0	19.0	--	--	27.0	26.0	--	--
26	13.0	11.0	18.0	16.0	22.0	20.0	--	--	27.0	26.0	--	--
27	14.0	12.0	18.0	17.0	23.0	22.0	--	--	27.0	25.0	--	--
28	15.0	13.0	19.0	18.0	23.0	22.0	26.0	26.0	27.0	26.0	--	--
29	14.0	14.0	21.0	19.0	24.0	22.0	26.0	25.0	27.0	26.0	20.0	19.0
30	16.0	14.0	22.0	20.0	24.0	23.0	26.0	25.0	27.0	26.0	19.0	18.0
31	--	--	22.0	15.0	--	--	26.0	26.0	26.0	26.0	--	--

4-1940.3. MAUMEE RIVER AT CENTER C. AND O. RAILROAD DOCK, AT TOLEDO, OHIO

LOCATION.--Lat 41°41'46", long 83°21'39", Lucas County, at mouth at end of center dock of Chesapeake and Ohio Railroad coal-loading dock, at Toledo.
PERIOD OF RECORD.--Chemical analyses: June 1962 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	SUSPENDED SOLIDS (MG/L)
OCT.										
01...	0900	--	146	0	51	24	--	--	--	39
09...	0845	--	144	0	53	34	--	--	--	41
16...	1000	17	160	0	65	31	1.4	.96	278	33
24...	0900	--	146	0	49	25	--	--	--	48
30...	0945	--	140	0	48	25	--	--	--	84
NOV.										
06...	0915	--	146	0	60	34	--	--	--	131
13...	0900	--	160	0	76	40	--	--	--	64
20...	0900	--	164	0	60	30	--	--	--	57
27...	0915	55	210	0	102	60	.2	1.2	412	47
DEC.										
03...	0900	20	186	0	98	31	26	.95	418	44
11...	0915	--	188	0	98	31	--	--	--	--
JAN.										
22...	0915	--	100	0	54	29	--	--	--	103
29...	0930	11	123	0	58	21	21	.60	300	46
FEB.										
13...	0900	--	144	0	62	18	--	--	--	50
19...	0900	--	166	0	73	23	--	--	--	53
26...	0845	16	188	0	83	28	20	1.0	384	28
MAR.										
05...	0945	--	192	0	83	28	--	--	--	99
13...	0900	25	252	0	103	34	9.9	1.6	422	20
19...	0900	--	140	0	56	34	--	--	--	25
26...	0845	--	178	0	124	47	--	--	--	32
APR.										
02...	0900	13	160	0	84	30	21	.72	392	35
09...	0930	--	160	0	74	24	--	--	--	134
16...	0900	--	172	0	76	22	--	--	--	62
23...	0945	--	124	0	57	16	--	--	--	168
30...	0845	--	172	0	74	25	--	--	--	62
MAY										
09...	--	--	--	--	--	--	--	--	--	25
14...	0900	21	202	0	99	32	22	1.0	400	81
21...	0900	--	180	0	76	22	--	--	--	81
28...	0845	--	156	0	62	18	--	--	--	48
JUNE										
04...	0815	--	166	0	68	17	--	--	--	--
11...	0815	16	208	0	79	27	12	1.1	380	--
25...	0845	--	154	0	62	22	--	--	--	--
JULY										
16...	0915	--	182	0	73	24	--	--	--	--
23...	0910	--	190	0	78	30	--	--	--	--
30...	0915	17	216	0	75	30	18	1.0	364	--
AUG.										
06...	0900	20	194	0	77	30	18	1.4	354	--
13...	0900	--	168	0	67	30	--	--	--	--
20...	0900	--	140	0	54	26	--	--	--	--
22...	0930	--	156	0	64	34	--	--	--	--
SEPT.										
03...	0930	--	124	0	58	36	--	--	--	--
10...	0845	--	122	0	55	32	--	--	--	--
17...	--	--	116	0	52	26	--	--	--	--
24...	0915	--	162	0	76	46	7.3	1.1	340	--

4-1940.3. MAUMEE RIVER AT CENTER C. AND O. RAILROAD DOCK, AT TOLEDO, OHIO--Continued

REMARKS.--Determinations of suspended solids and dissolved oxygen (DO) furnished by the city of Toledo, Division of Sewage Disposal. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	COLOR (PLATI-NUM-COBALT UNITS)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.										
01...	170	51	420	7.4	20	10	5.9	64	--	--
09...	176	58	442	7.4	16	10	5.4	54	--	--
16...	202	71	484	7.3	18	15	3.9	41	--	.21
24...	184	64	414	7.4	13	15	8.2	78	--	--
30...	180	66	410	8.1	9	15	9.3	81	--	--
NOV.										
06...	180	60	479	8.1	12	10	6.0	56	--	--
13...	208	77	559	8.1	9	10	4.9	43	--	--
20...	192	58	478	7.6	5	10	11.5	90	--	--
27...	230	58	718	7.8	10	30	9.3	82	--	.21
DEC.										
03...	276	123	626	8.2	6	30	10.6	85	--	.07
11...	270	116	625	7.4	2	25	--	--	--	--
JAN.										
22...	156	74	399	7.6	1	50	10.9	76	--	--
29...	184	83	417	7.3	1	25	12.1	84	2.0	.20
FEB.										
13...	200	82	440	7.6	0	45	12.7	87	2.0	--
19...	232	96	519	7.3	2	25	11.5	83	4.0	--
26...	260	106	582	7.6	2	20	10.8	78	5.0	.14
MAR.										
05...	232	74	589	7.4	3	15	11.3	84	3.0	--
13...	322	115	717	7.7	3	20	13.4	100	9.0	.10
19...	172	58	466	7.4	6	5	12.7	102	9.0	--
26...	264	118	703	7.5	9	20	13.6	117	12	--
APR.										
02...	264	133	581	7.3	4	20	11.7	90	6.0	--
09...	244	113	540	8.0	11	75	9.1	83	8.0	--
16...	256	115	546	7.9	15	35	8.0	79	8.0	--
23...	194	92	423	7.7	10	75	9.2	81	3.0	--
30...	246	105	522	7.5	14	40	7.7	75	3.0	--
MAY										
09...	--	--	--	--	19	--	5.7	54	4.0	--
14...	292	126	646	7.5	14	45	8.4	82	5.0	.17
21...	266	118	549	8.1	16	45	7.8	79	3.0	--
28...	224	96	486	7.4	19	40	6.4	67	3.0	--
JUNE										
04...	246	110	519	7.4	18	30	--	--	--	--
11...	292	121	588	7.5	20	30	--	--	--	.09
25...	240	114	514	7.3	20	35	--	--	--	--
JULY										
16...	254	105	552	7.9	26	30	--	--	--	--
23...	256	100	584	7.3	27	25	--	--	--	--
30...	280	103	601	7.8	26	30	--	--	--	.11
AUG.										
06...	258	99	583	8.0	26	25	--	--	--	.16
13...	218	80	515	7.3	26	15	--	--	--	--
20...	180	65	429	7.4	25	10	--	--	--	--
22...	188	60	481	7.5	26	4	--	--	--	--
SEPT.										
03...	172	70	418	7.2	24	10	--	--	--	--
10...	173	73	418	7.1	23	15	--	--	--	--
17...	166	71	408	7.4	21	10	--	--	--	--
24...	240	107	558	7.4	20	20	--	--	--	.09

4-1943.1. MIDDLE BRANCH PORTAGE RIVER NEAR PORTAGE, OHIO

LOCATION.--Lat 41°20'19", long 83°33'10", in NW 1/4 sec.1, T.4 N., R.11 E., Wood County, on downstream side of center pier of bridge on Bloomdale Road, 3.4 miles upstream from South Branch Portage River, 5 miles downstream from Rocky Ford, and 6 miles east northeast of Portage.
DRAINAGE AREA.--217 sq mi.
PERIOD OF RECORD.--Chemical analyses: April to September 1969.
Water temperatures: April to September 1969.
REMARKS.--Continuous water quality recorder operated since April 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, APRIL TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
APR.												
17...	1930	190	0	138	36	.4	22	502	334	178	710	8.1
21...	0915	136	0	82	18	.3	53	390	252	140	535	7.8
MAY												
20...	1655	126	0	48	10	.3	34	286	184	81	386	8.2
28...	1115	214	0	115	26	.3	29	458	326	150	681	7.9
JUNE												
06...	1130	192	0	132	40	.3	20	478	320	162	701	7.6
24...	1515	172	0	76	20	.5	75	422	294	153	590	8.0
JULY												
04...	1445	106	0	61	13	.4	16	216	164	77	350	7.4
30...	1000	182	4	163	52	.4	3.0	478	316	160	783	8.3
AUG.												
02...	1035	184	0	98	41	.5	10	360	250	99	617	7.1
30...	1725	110	0	422	168	.8	2.5	954	553	463	1450	7.0
SEPT.												
05...	1600	102	0	500	144	1.0	2.2	1120	652	568	1770	7.2
20...	1315	180	0	187	50	.5	41	576	376	228	792	7.3

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4-1943.1. MIDDLE BRANCH PORTAGE RIVER NEAR PORTAGE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), APRIL TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	660	640	670	650	640	620	840	800	1700	1590
2	---	---	670	640	690	660	630	620	810	600	1770	1620
3	---	---	660	640	720	690	660	630	660	610	1760	1500
4	---	---	670	640	720	690	670	340	690	660	1810	1720
5	---	---	670	650	710	670	590	420	700	660	1770	1670
6	---	---	680	660	700	670	700	590	690	680	1680	1580
7	---	---	700	610	690	670	700	640	---	---	1760	1320
8	---	---	690	660	730	690	700	640	---	---	1740	1290
9	---	---	690	620	760	720	710	700	---	---	1740	1440
10	---	---	660	620	740	680	710	700	---	---	1620	1580
11	---	---	620	530	720	650	700	680	---	---	1600	1520
12	---	---	600	550	670	650	700	440	---	---	1560	1520
13	---	---	640	600	770	640	630	450	---	---	1520	1440
14	---	---	660	640	640	480	700	630	---	---	1440	1220
15	---	---	670	660	580	530	670	640	---	---	1370	1200
16	---	---	680	660	600	560	660	640	---	---	1220	1050
17	710	700	660	650	640	600	680	640	---	---	1140	910
18	710	570	650	370	670	640	730	660	---	---	1020	800
19	570	450	370	310	680	660	720	690	---	---	1040	750
20	520	450	430	320	700	670	750	680	---	---	1140	750
21	580	520	500	430	710	700	740	680	---	---	1140	760
22	610	580	560	500	710	690	700	650	---	---	1090	740
23	620	610	600	560	690	600	650	620	---	---	1150	700
24	630	620	640	600	620	560	670	640	---	---	1130	720
25	650	630	660	640	670	620	700	660	---	---	1760	710
26	660	650	660	660	690	670	690	670	---	---	950	900
27	670	640	680	660	680	640	700	620	---	---	1090	840
28	660	640	680	670	660	600	730	620	1380	1330	1130	830
29	660	580	680	670	660	630	800	730	1440	1380	1090	830
30	640	600	670	650	640	620	800	770	1470	1440	860	830
31	---	---	670	650	---	---	800	780	1590	1470	---	---

TEMPERATURE (°C) OF WATER, APRIL TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	18.0	10.0	26.0	22.0	28.0	21.0	27.0	22.0	30.0	22.0
2	---	---	20.0	12.0	24.0	18.0	28.0	22.0	28.0	22.0	30.0	25.0
3	---	---	22.0	15.0	18.0	14.0	28.0	22.0	28.0	22.0	28.0	20.0
4	---	---	22.0	17.0	22.0	13.0	25.0	21.0	29.0	21.0	26.0	22.0
5	---	---	22.0	17.0	23.0	18.0	23.0	21.0	32.0	22.0	24.0	22.0
6	---	---	22.0	17.0	26.0	18.0	22.0	19.0	26.0	22.0	25.0	22.0
7	---	---	23.0	19.0	24.0	21.0	20.0	18.0	---	---	24.0	22.0
8	---	---	21.0	18.0	22.0	17.0	22.0	17.0	---	---	25.0	18.0
9	---	---	18.0	13.0	24.0	14.0	26.0	20.0	---	---	22.0	17.0
10	---	---	13.0	10.0	26.0	17.0	31.0	24.0	---	---	23.0	14.0
11	---	---	12.0	10.0	27.0	20.0	31.0	23.0	---	---	22.0	16.0
12	---	---	13.0	10.0	28.0	23.0	28.0	23.0	---	---	25.0	16.0
13	---	---	16.0	11.0	24.0	22.0	27.0	20.0	---	---	26.0	16.0
14	---	---	20.0	13.0	22.0	17.0	28.0	22.0	---	---	25.0	18.0
15	---	---	21.0	14.0	17.0	15.0	29.0	22.0	---	---	26.0	17.0
16	---	---	23.0	16.0	19.0	15.0	31.0	24.0	---	---	22.0	19.0
17	19.0	18.0	22.0	18.0	22.0	17.0	30.0	26.0	---	---	19.0	16.0
18	18.0	8.0	18.0	14.0	21.0	19.0	32.0	25.0	---	---	19.0	15.0
19	8.0	6.0	16.0	15.0	22.0	18.0	28.0	24.0	---	---	19.0	15.0
20	10.0	7.0	16.0	15.0	22.0	20.0	26.0	23.0	---	---	18.0	15.0
21	11.0	9.0	17.0	14.0	24.0	17.0	29.0	23.0	---	---	---	---
22	10.0	8.0	15.0	13.0	21.0	19.0	29.0	25.0	---	---	---	---
23	8.0	7.0	17.0	12.0	22.0	19.0	30.0	24.0	---	---	---	---
24	14.0	7.0	20.0	13.0	21.0	18.0	30.0	25.0	---	---	---	---
25	16.0	9.0	19.0	16.0	26.0	18.0	30.0	23.0	---	---	---	---
26	18.0	11.0	20.0	13.0	30.0	24.0	30.0	24.0	---	---	---	---
27	20.0	13.0	22.0	14.0	28.0	24.0	29.0	23.0	---	---	---	---
28	18.0	15.0	25.0	18.0	28.0	23.0	25.0	22.0	27.0	22.0	---	---
29	15.0	10.0	27.0	20.0	26.0	22.0	24.0	20.0	30.0	22.0	---	---
30	15.0	9.0	27.0	22.0	28.0	23.0	31.0	20.0	31.0	22.0	---	---
31	---	---	26.0	20.0	---	---	29.0	21.0	31.0	22.0	---	---

4-1956. PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OHIO

LOCATION.--Lat 41°26'58", long 83°21'29", Sandusky County, on right bank at old interurban line bridge abutment, just downstream from railroad bridge, 800 ft downstream from gaging station at Woodville.
DRAINAGE AREA.--428 sq mi.
PERIOD OF RECORD.--Chemical analyses: June 1968 to September 1969.
Water temperatures: June 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since June 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 04-1955.00 Portage River at Woodville, Ohio.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
12...	2200	3.6	244	0	224	130	.7	5.7	780	395	195	1220
19...	2000	8.8	228	0	209	95	.7	3.6	714	375	188	1070
NOV.												
08...	1900	37	216	0	218	100	.7	2.0	706	355	178	1080
16...	1400	41	208	0	230	115	.6	16	754	380	209	1150
DEC.												
05...	2000	29	216	0	205	78	.5	19	642	400	223	989
11...	1115	12	260	0	248	110	.6	32	794	465	252	1250
JAN.												
11...	2000	28	228	12	224	105	.4	32	780	485	278	1170
30...	1800	4650	100	0	50	17	.2	34	274	170	88	389
FEB.												
13...	1430	90	218	0	150	44	.3	28	556	360	181	811
20...	--	60	250	0	210	86	.6	19	758	465	260	1060
MAR.												
22...	1600	54	234	0	207	85	.4	16	756	450	258	1030
29...	1600	508	192	0	124	56	.3	42	516	335	177	710
APR.												
16...	2000	126	216	0	167	28	.3	24	600	385	208	834
23...	2000	728	178	4	98	30	.2	42	474	320	171	654
MAY												
16...	1600	242	208	10	132	36	.4	36	500	364	177	740
23...	1600	616	206	0	102	23	.2	34	430	224	55	636
JUNE												
11...	2000	43	192	14	169	66	.4	13	616	366	185	862
19...	2000	230	196	8	115	34	.4	42	504	362	188	738
JULY												
05...	1600	3880	156	0	48	13	.3	30	244	215	87	417
12...	1600	98	250	0	120	39	.4	24	458	373	168	771
SEPT.												
04...	2200	26	226	0	237	112	.5	11	730	463	278	1130
27...	2000	44	192	0	204	22	.4	13	622	400	242	967

4-1956. PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	1110	830	880	760	---	---	---	---	---	---
2	---	---	1110	1060	880	840	---	---	---	---	---	---
3	---	---	1110	920	900	820	---	---	---	---	---	---
4	---	---	1070	960	980	900	---	---	---	---	---	---
5	---	---	1040	850	950	830	---	---	---	---	---	---
6	---	---	1020	930	930	830	---	---	---	---	---	---
7	---	---	1060	980	970	880	---	---	---	---	---	---
8	---	---	1090	1030	990	910	---	---	---	---	---	---
9	---	---	1140	1080	1060	970	---	---	---	---	---	---
10	---	---	1140	1130	1060	1010	---	---	---	---	---	---
11	---	---	1140	1080	1110	1040	---	---	---	---	---	---
12	---	---	1100	1070	1160	1090	---	---	---	---	---	---
13	---	---	1110	1070	1140	960	---	---	---	---	1000	880
14	---	---	1100	1020	---	---	---	---	---	---	980	880
15	---	---	1110	980	---	---	---	---	---	---	1000	900
16	---	---	1160	1090	---	---	---	---	---	---	1060	940
17	---	---	1130	970	---	---	---	---	---	---	1040	960
18	---	---	1090	940	---	---	---	---	---	---	1060	900
19	---	---	1110	1060	1130	1100	---	---	---	---	---	---
20	---	---	1120	1090	1180	1040	---	---	---	---		
21	---	---	1110	960	1110	1030	---	---	---	---	---	---
22	1090	1020	980	940	1080	990	---	---	---	---	---	---
23	1120	970	960	880	1120	910	---	---	---	---	---	---
24	1140	1010	960	880	1010	940	---	---	---	---	---	---
25	1140	940	940	860	1040	990	---	---	---	---	---	---
26	1110	940	960	880	1020	970	---	---	---	---	---	---
27	1110	870	980	900	1170	860	---	---	---	---	---	---
28	1010	920	980	760	860	370	---	---	---	---	---	---
29	1080	940	860	820	380	320	---	---	---	---	---	---
30	1060	910	880	740	400	310	400	370	---	---	---	---
31	990	860	---	---	470	400	490	370	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	740	700	---	---	---	---	---	---	930	890
2	---	---	750	740	---	---	---	---	---	---	1020	930
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	640	610	---	---	---	---
10	---	---	---	---	---	---	680	640	---	---	---	---
11	---	---	---	---	---	---	730	650	---	---	---	---
12	---	---	---	---	---	---	720	640	---	---	---	---
13	---	---	---	---	---	---	670	550	900	850	---	---
14	---	---	---	---	---	---	580	530	890	820	---	---
15	---	---	710	690	---	---	650	580	880	820	---	---
16	---	---	740	700	---	---	690	610	940	810	---	---
17	---	---	740	710	---	---	---	---	890	810	---	---
18	---	---	710	400	---	---	---	---	880	820	---	---
19	---	---	400	310	---	---	---	---	910	830	---	---
20	---	---	380	310	---	---	---	---	1050	870	---	---
21	---	---	500	380	---	---	---	---	1000	860	---	---
22	---	---	570	500	---	---	---	---	960	830	---	---
23	---	---	640	570	---	---	---	---	880	810	---	---
24	---	---	---	---	---	---	---	---	860	820	---	---
25	720	700	---	---	---	---	---	640	980	860	---	---
26	730	710	---	---	---	---	760	620	930	900	---	---
27	750	720	---	---	---	---	680	550	1020	860	---	---
28	740	720	---	---	---	---	1020	670	980	890	---	---
29	770	720	---	---	---	---	---	---	970	840	---	---
30	720	690	---	---	---	---	---	---	930	870	---	---
31	---	---	---	---	---	---	---	---	920	880	---	---

4-1956. PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	9.2	8.6	---	---	---	---	---	---
2	---	---	---	---	9.2	8.8	---	---	---	---	---	---
3	---	---	---	---	9.2	8.7	---	---	---	---	---	---
4	---	---	---	---	9.3	8.8	---	---	---	---	---	---
5	---	---	---	---	9.8	9.2	---	---	---	---	---	---
6	---	---	---	---	9.9	9.5	---	---	---	---	---	---
7	---	---	---	---	9.8	9.6	---	---	---	---	---	---
8	---	---	---	---	10.0	9.6	---	---	---	---	---	---
9	---	---	---	---	9.9	9.7	---	---	---	---	---	---
10	---	---	---	---	9.9	9.7	---	---	---	---	---	---
11	---	---	---	---	9.9	9.5	---	---	---	---	---	---
12	---	---	---	---	9.8	9.6	---	---	---	---	---	---
13	---	---	---	---	9.8	9.5	---	---	---	---	9.4	6.8
14	---	---	---	---	---	---	---	---	---	---	9.0	8.8
15	---	---	---	---	---	---	---	---	---	---	9.0	8.6
16	---	---	---	---	---	---	---	---	---	---	9.0	8.2
17	---	---	---	---	---	---	---	---	---	---	8.8	8.1
18	---	---	---	---	---	---	---	---	---	---	8.6	8.0
19	---	---	---	---	9.4	9.3	---	---	---	---	---	---
20	---	---	---	---	9.8	9.4	---	---	---	---	---	---
21	---	---	9.2	8.8	9.7	8.9	---	---	---	---	---	---
22	---	---	9.3	8.8	9.8	9.6	---	---	---	---	---	---
23	---	---	9.3	8.7	9.9	9.5	---	---	---	---	---	---
24	---	---	8.9	8.6	10.0	9.4	---	---	---	---	---	---
25	---	---	9.3	8.8	9.8	9.4	---	---	---	---	---	---
26	---	---	9.4	9.0	9.9	9.5	---	---	---	---	---	---
27	---	---	9.4	8.9	9.8	8.9	---	---	---	---	---	---
28	---	---	9.2	8.9	9.5	8.8	---	---	---	---	---	---
29	---	---	9.0	8.7	9.5	9.0	---	---	---	---	---	---
30	---	---	8.9	8.5	9.5	8.9	8.4	7.9	---	---	---	---
31	---	---	---	---	9.8	9.2	8.5	7.6	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	8.6	8.4	---	---	---	---	8.9	---	8.4	7.8
2	---	---	8.6	8.5	---	----	---	---	8.9	---	8.4	7.8
3	---	---	---	---	---	---	---	---	9.6	---	---	---
4	---	---	---	---	---	---	---	---	9.7	9.0	---	---
5	---	---	---	---	---	---	---	---	9.7	9.6	---	---
6	---	---	---	---	---	---	---	---	9.6	---	---	---
7	---	---	---	---	---	---	---	---	9.6	---	---	---
8	---	---	---	---	---	---	---	---	9.5	---	---	---
9	---	---	---	---	---	---	---	---	9.4	---	---	---
10	---	---	---	---	---	---	---	---	9.3	---	---	---
11	---	---	---	---	---	---	---	---	9.3	---	---	---
12	---	---	---	---	---	---	---	---	9.4	---	---	---
13	---	---	---	---	---	---	---	---	9.5	8.3	---	---
14	---	---	---	---	---	---	---	---	8.7	8.1	---	---
15	---	---	8.2	7.8	---	---	---	---	8.6	8.2	---	---
16	---	---	8.2	7.5	---	---	---	---	8.4	8.0	---	---
17	---	---	8.1	7.7	---	---	---	---	8.3	8.0	---	---
18	---	---	8.0	7.3	---	---	---	---	8.5	8.0	---	---
19	---	---	7.5	7.2	---	---	---	---	8.6	8.1	---	---
20	---	---	7.5	7.4	---	---	---	---	8.8	8.3	---	---
21	---	---	7.6	7.5	---	---	---	---	8.7	8.3	---	---
22	---	---	7.9	7.5	---	---	---	---	8.6	8.2	---	---
23	---	---	8.0	7.7	---	---	---	---	8.5	8.1	---	---
24	---	---	---	---	---	---	---	---	8.5	7.9	---	---
25	8.3	8.2	---	---	---	---	8.9	---	8.7	8.2	---	---
26	8.2	8.2	---	---	---	---	9.2	8.4	8.9	8.2	---	---
27	8.3	6.6	---	---	---	---	9.2	8.8	8.7	8.3	---	---
28	8.4	8.1	---	---	---	---	9.1	8.8	8.6	8.2	---	---
29	8.8	8.2	---	---	---	---	8.9	8.5	8.6	8.2	---	---
30	8.7	8.3	---	---	---	---	9.4	8.8	8.6	8.0	---	---
31	---	---	---	---	---	---	8.9	---	8.5	8.1	---	---

4-1956. PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	----	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	10.6	2.4	---	---	---	---	---	---
5	---	---	---	---	4.4	1.0	---	---	---	---	---	---
6	---	---	---	---	1.0	.8	---	---	---	---	---	---
7	---	---	---	---	1.0	.7	---	---	---	---	---	---
8	---	---	---	---	1.0	.8	---	---	---	---	---	---
9	---	---	---	---	1.3	.7	---	---	---	---	---	---
10	---	---	---	---	1.4	1.2	---	---	---	---	---	---
11	---	---	---	---	1.8	1.4	---	---	---	---	---	---
12	---	---	---	---	2.7	1.8	---	---	---	---	---	---
13	---	---	---	---	2.2	.6	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---

16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	10.6	---	---	---	---	---	---
20	---	---	---	---	10.4	7.6	---	---	---	---	---	---
21	---	---	---	---	8.6	6.7	---	---	---	---	---	---
22	---	---	---	---	7.0	5.0	---	---	---	---	---	---
23	---	---	---	---	5.0	4.0	---	---	---	---	---	---
24	---	---	---	---	5.1	3.6	---	---	---	---	---	---
25	---	---	---	---	3.8	3.2	---	---	---	---	---	---
26	---	---	---	---	3.2	2.8	---	---	---	---	---	---
27	---	---	---	---	2.8	2.6	---	---	---	---	---	---
28	---	---	---	---	4.9	2.4	---	---	---	---	---	---
29	---	---	---	---	2.8	2.5	---	---	---	---	---	---
30	---	---	---	---	2.8	2.4	---	---	---	---	---	---
31	---	---	---	---	2.5	1.8	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

STREAMS TRIBUTARY TO LAKE ERIE

4-1956. PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	5	4	---	---	---	---	---	---
2	---	---	---	---	6	5	---	---	---	---	---	---
3	---	---	---	---	8	6	---	---	---	---	---	---
4	---	---	---	---	7	4	---	---	---	---	---	---
5	---	---	---	---	4	0	---	---	---	---	---	---
6	---	---	---	---	1	0	---	---	---	---	---	---
7	---	---	---	---	1	0	---	---	---	---	---	---
8	---	---	---	---	1	0	---	---	---	---	---	---
9	---	---	---	---	1	0	---	---	---	---	---	---
10	---	---	---	---	1	0	---	---	---	---	---	---
11	---	---	---	---	2	0	---	---	---	---	---	---
12	---	---	---	---	3	0	---	---	---	---	---	---
13	---	---	---	---	3	1	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	8	2	---	---	---	---	---	---	---	---
22	---	---	8	3	---	---	---	---	---	---	---	---
23	---	---	9	4	---	---	---	---	---	---	---	---
24	---	---	10	8	---	---	---	---	---	---	---	---
25	---	---	9	6	---	---	---	---	---	---	---	---
26	---	---	8	6	---	---	---	---	---	---	---	---
27	---	---	9	7	---	---	---	---	---	---	---	---
28	---	---	10	7	---	---	---	---	---	---	---	---
29	---	---	8	7	---	---	---	---	---	---	---	---
30	---	---	9	5	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	27	23	28	25
2	---	---	---	---	---	---	---	---	30	23	25	24
3	---	---	---	---	---	---	---	---	31	23	---	---
4	---	---	---	---	---	---	---	---	35	23	---	---
5	---	---	---	---	---	---	---	---	34	25	---	---
6	---	---	---	---	---	---	---	---	34	25	---	---
7	---	---	---	---	---	---	---	---	31	26	---	---
8	---	---	---	---	---	---	---	---	30	26	---	---
9	---	---	---	---	---	---	---	---	27	25	---	---
10	---	---	---	---	---	---	---	---	30	24	---	---
11	---	---	---	---	---	---	---	---	31	24	---	---
12	---	---	---	---	---	---	---	---	31	25	---	---
13	---	---	---	---	---	---	---	---	29	25	---	---
14	---	---	---	---	---	---	---	---	29	22	---	---
15	---	---	17	14	---	---	---	---	29	19	---	---
16	---	---	19	14	---	---	---	---	27	24	---	---
17	---	---	17	15	---	---	---	---	26	23	---	---
18	---	---	---	---	---	---	---	---	29	23	---	---
19	---	---	---	---	---	---	---	---	30	24	---	---
20	---	---	---	---	---	---	---	---	27	22	---	---
21	---	---	---	---	---	---	---	---	26	19	---	---
22	---	---	---	---	---	---	---	---	27	19	---	---
23	---	---	---	---	---	---	---	---	28	20	---	---
24	---	---	---	---	---	---	---	---	29	22	---	---
25	15	13	---	---	---	---	24	22	29	23	---	---
26	17	12	---	---	---	---	26	20	28	22	---	---
27	19	14	---	---	---	---	25	20	27	20	---	---
28	17	14	---	---	---	---	22	20	27	21	---	---
29	14	12	---	---	---	---	21	19	27	22	---	---
30	16	10	---	---	---	---	27	20	30	24	---	---
31	---	---	---	---	---	---	31	21	30	24	---	---

4-1965. SANDUSKY RIVER NEAR UPPER SANDUSKY, OHIO

LOCATION.--Lat 40°51'02", long 83°15'23", in sec. 21, T. 2S., R. 14E., Wyandot County, on left bank at downstream side of highway bridge, 0.8 mile upstream from Rock Run, and 2 miles northeast of Upper Sandusky.
DRAINAGE AREA.--298 sq mi.
PERIOD OF RECORD.--Chemical analyses: June to September 1969.
Water temperatures: June to September 1969.
REMARKS.--Continuous water quality recorder operated since June 1969. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, JUNE TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
JUNE												
09...	1520	122	224	0	114	25	.4	23	412	332	148	646
JULY												
15...	1210	148	170	0	80	20	.5	28	312	250	110	522
30...	2035	51	254	0	129	27	.4	13	432	350	142	714
AUG.												
15...	1205	20	242	0	176	43	.6	8.1	544	380	181	855
20...	1815	601	138	0	64	18	.3	17	266	203	90	434
SEPT.												
02...	1105	27	200	0	166	29	.6	10	466	358	194	746
11...	1120	22	258	0	170	38	.7	8.6	548	393	181	847

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	670	620	730	690	760	730
2	---	---	---	---	---	---	660	610	720	690	780	710
3	---	---	---	---	---	---	650	600	740	710	800	740
4	---	---	---	---	---	---	670	640	760	720	880	780
5	---	---	---	---	---	---	660	640	780	750	860	830
6	---	---	---	---	---	---	660	600	820	770	850	800
7	---	---	---	---	---	---	600	310	860	800	800	780
8	---	---	---	---	---	---	420	320	1010	860	800	760
9	---	---	---	---	---	---	460	420	1030	1010	840	800
10	---	---	---	---	---	---	490	460	---	---	840	800
11	---	---	---	---	---	---	530	490	---	---	850	830
12	---	---	---	---	660	650	540	530	---	---	870	830
13	---	---	---	---	680	650	530	390	---	---	880	840
14	---	---	---	---	660	560	420	390	---	---	880	830
15	---	---	---	---	560	410	550	420	860	850	860	810
16	---	---	---	---	480	430	600	550	910	780	870	810
17	---	---	---	---	480	430	660	600	840	810	810	600
18	---	---	---	---	540	490	660	640	810	750	680	630
19	---	---	---	---	580	540	660	640	780	520	660	600
20	---	---	---	---	590	580	670	600	520	410	710	660
21	---	---	---	---	620	590	600	490	520	390	720	710
22	---	---	---	---	630	610	540	470	470	420	740	720
23	---	---	---	---	640	570	510	480	520	470	760	740
24	---	---	---	---	640	620	570	510	580	520	760	720
25	---	---	---	---	650	610	610	570	660	580	770	750
26	---	---	---	---	630	500	650	610	670	660	760	740
27	---	---	---	---	590	530	660	650	730	670	760	730
28	---	---	---	---	620	580	690	660	750	730	760	730
29	---	---	---	---	650	620	700	680	780	740	780	760
30	---	---	---	---	660	630	730	680	780	730	790	770
31	---	---	---	---	---	---	750	700	770	730	---	---

STREAMS TRIBUTARY TO LAKE ERIE

4-1965. SANDUSKY RIVER NEAR UPPER SANDUSKY, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	12.6	5.6	15.0	7.7	---	---
2	---	---	---	---	---	---	14.3	5.6	15.0	7.4	---	---
3	---	---	---	---	---	---	10.8	5.8	14.6	8.2	---	---
4	---	---	---	---	---	---	8.1	5.0	15.0	6.9	---	---
5	---	---	---	---	---	---	7.8	5.2	15.0	6.0	---	---
6	---	---	---	---	---	---	6.8	5.2	13.7	5.0	---	---
7	---	---	---	---	---	---	9.4	6.3	10.9	3.9	---	---
8	---	---	---	---	---	---	10.1	7.9	---	---	---	---
9	---	---	---	---	---	---	10.7	9.5	---	---	---	---
10	---	---	---	---	---	---	10.1	8.4	---	---	---	---
11	---	---	---	---	---	---	9.0	7.9	---	---	---	---
12	---	---	---	---	13.1	9.1	8.7	7.9	---	---	---	---
13	---	---	---	---	14.1	8.0	8.9	6.4	---	---	---	---
14	---	---	---	---	9.2	7.8	8.9	7.6	---	---	---	---
15	---	---	---	---	11.6	8.8	8.3	6.0	11.1	10.8	---	---
16	---	---	---	---	12.5	11.5	8.1	7.6	11.9	10.4	---	---
17	---	---	---	---	11.8	10.3	8.4	5.2	11.3	11.0	---	---
18	---	---	---	---	11.0	9.9	8.3	5.2	11.1	10.5	---	---
19	---	---	---	---	11.3	9.7	8.8	5.4	11.4	8.9	---	---
20	---	---	---	---	10.1	9.6	7.4	5.1	9.2	6.0	---	---
21	---	---	---	---	10.5	9.0	7.6	6.4	6.3	5.5	---	---
22	---	---	---	---	10.2	7.9	7.5	6.8	6.6	5.6	---	---
23	---	---	---	---	10.1	9.2	7.2	6.5	6.9	5.7	---	---
24	---	---	---	---	10.4	9.0	7.0	5.9	7.1	5.6	---	---
25	---	---	---	---	9.9	8.2	7.3	6.2	8.3	5.2	---	---
26	---	---	---	---	8.2	6.2	7.7	6.4	11.8	4.6	---	---
27	---	---	---	---	7.0	5.5	8.0	6.4	14.4	4.9	---	---
28	---	---	---	---	7.9	5.2	12.4	5.3	---	---	---	---
29	---	---	---	---	11.0	6.5	13.0	6.7	---	---	---	---
30	---	---	---	---	10.2	6.8	15.0	7.7	---	---	---	---
31	---	---	---	---	---	---	15.0	7.0	---	---	---	---

TEMPERATURE (°C) OF WATER, JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	--	--	--	--	27.0	23.0	26.0	23.0	26.0	22.0
2	--	--	--	--	--	--	27.0	22.0	27.0	23.0	24.0	22.0
3	--	--	--	--	--	--	26.0	22.0	27.0	22.0	25.0	22.0
4	--	--	--	--	--	--	25.0	23.0	27.0	22.0	25.0	22.0
5	--	--	--	--	--	--	26.0	24.0	28.0	22.0	25.0	23.0
6	--	--	--	--	--	--	24.0	22.0	28.0	22.0	28.0	23.0
7	--	--	--	--	--	--	22.0	19.0	29.0	23.0	28.0	22.0
8	--	--	--	--	--	--	20.0	19.0	--	--	24.0	22.0
9	--	--	--	--	--	--	21.0	19.0	33.0	--	22.0	19.0
10	--	--	--	--	--	--	23.0	20.0	--	--	23.0	18.0
11	--	--	--	--	--	--	24.0	22.0	--	--	22.0	18.0
12	--	--	--	--	24.0	22.0	25.0	23.0	--	--	23.0	18.0
13	--	--	--	--	25.0	22.0	24.0	22.0	--	--	23.0	18.0
14	--	--	--	--	23.0	21.0	24.0	22.0	--	--	23.0	18.0
15	--	--	--	--	21.0	17.0	25.0	24.0	28.0	24.0	24.0	19.0
16	--	--	--	--	17.0	16.0	26.0	24.0	25.0	24.0	22.0	20.0
17	--	--	--	--	18.0	17.0	31.0	22.0	25.0	23.0	20.0	19.0
18	--	--	--	--	19.0	18.0	29.0	25.0	26.0	23.0	19.0	18.0
19	--	--	--	--	19.0	18.0	28.0	26.0	25.0	23.0	18.0	17.0
20	--	--	--	--	20.0	18.0	26.0	25.0	23.0	22.0	18.0	17.0
21	--	--	--	--	20.0	18.0	25.0	24.0	23.0	22.0	19.0	17.0
22	--	--	--	--	20.0	18.0	24.0	24.0	23.0	21.0	21.0	17.0
23	--	--	--	--	20.0	18.0	25.0	24.0	24.0	21.0	21.0	18.0
24	--	--	--	--	21.0	20.0	25.0	24.0	25.0	20.0	19.0	18.0
25	--	--	--	--	22.0	20.0	26.0	24.0	25.0	22.0	19.0	17.0
26	--	--	--	--	24.0	21.0	27.0	24.0	27.0	23.0	19.0	16.0
27	--	--	--	--	26.0	24.0	27.0	24.0	26.0	21.0	17.0	17.0
28	--	--	--	--	28.0	24.0	26.0	24.0	27.0	22.0	18.0	16.0
29	--	--	--	--	26.0	23.0	24.0	23.0	26.0	23.0	17.0	15.0
30	--	--	--	--	26.0	23.0	26.0	22.0	28.0	23.0	19.0	16.0
31	--	--	--	--	--	--	27.0	22.0	29.0	23.0	--	--

4-1968. TYMOCHTEE CREEK AT CRAWFORD, OHIO

LOCATION.--Lat 40°55'22", long 83°20'56", in SE1/4 sec.27, T.1 S., R.13 E., Wyandot County, at gaging station on right bank at downstream side of bridge on County Highway 199 (formerly U.S. Highway 23), 0.4 mile northwest of Crawford, 1.5 miles downstream from Lick Run and 3 miles southeast of Carey.
DRAINAGE AREA.--229 sq mi.
PERIOD OF RECORD.--Chemical analyses: January 1968 to September 1969.
Water temperatures: January 1968 to September 1969.
REMARKS.--Continuous water quality recorder operated since January 1968. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater due to instrument limitation. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.												
01...	1500	.17	140	0	484	26	.6	1.5	864	585	470	1220
28...	1700	.81	276	0	484	30	.6	1.0	992	710	483	1300
NOV.												
13...	0900	4.2	276	0	568	27	.7	1.3	1110	770	544	1410
27...	1600	6.4	242	0	370	27	.6	8.7	802	554	355	1100
DEC.												
09...	1625	55	140	0	118	27	.3	35	366	278	163	590
19...	1400	12	230	0	228	32	.3	21	598	445	256	886
JAN.												
07...	1400	36	228	0	186	24	.3	25	540	415	228	787
21...	1455	865	72	0	48	11	.2	16	192	122	63	297
FEB.												
26...	1600	195	140	0	111	18	.1	28	352	254	139	544
MAR.												
11...	1015	40	194	0	186	21	.3	18	516	372	213	750
26...	1800	451	142	0	149	26	.2	19	406	290	173	630
APR.												
15...	1400	83	192	0	151	18	.3	19	454	335	177	673
21...	1900	1510	84	0	49	8.0	.2	30	234	146	77	326
MAY												
06...	1400	55	202	0	158	23	.2	24	416	350	184	690
19...	0800	4410	64	0	27	6.2	.2	21	130	108	56	209
JUNE												
25...	1200	29	206	0	166	21	.4	23	466	362	193	747
30...	1800	46	184	0	93	17	.4	41	364	302	151	592
JULY												
19...	1900	28	64	0	24	6.7	.4	17	122	86	34	203
29...	2100	44	256	0	127	14	.4	15	430	356	146	680
AUG.												
11...	2000	12	182	0	119	14	.4	9.2	354	274	124	578
21...	2000	79	248	0	236	20	.6	2.5	584	442	239	873
SEPT.												
04...	1800	119	84	0	55	6.3	.4	8.6	188	130	61	285
17...	1700	85	170	0	113	67	.5	13	420	248	108	718

4-1968. TYMOCHTEE CREEK AT CRAWFORD, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1260	1170	---	---	---	---	---	---	---	---	---	---
2	1260	1110	---	---	---	---	740	510	---	---	---	---
3	1180	1160	---	---	---	---	660	440	---	---	---	---
4	1200	1180	---	---	---	---	580	510	---	---	---	---
5	1260	1200	---	---	---	---	580	510	---	---	---	---
6	1230	1200	---	---	---	---	780	580	---	---	---	---
7	1290	1180	---	---	---	---	810	770	---	---	---	---
8	1300	1270	---	---	---	---	770	610	---	---	---	---
9	1310	1250	---	---	---	---	620	420	---	---	---	---
10	1260	1230	---	---	---	---	560	520	---	---	---	---
11	1300	1250	---	---	---	---	560	440	---	---	750	720
12	1270	1230	---	---	---	---	440	390	---	---	740	620
13	1270	1230	---	---	---	---	450	380	---	---	620	430
14	1270	1210	---	---	---	---	440	360	---	---	430	270
15	1260	1180	---	---	---	---	430	390	---	---	---	---
16	1200	1130	---	---	---	---	410	330	---	---	---	---
17	1160	1120	---	---	---	---	390	330	---	---	---	---
18	1210	1130	---	---	---	---	470	360	---	---	---	---
19	1270	1210	---	---	---	---	---	---	---	---	---	---
20	1280	1250	---	---	---	---	---	---	---	---	---	---
21	1290	1240	---	---	---	---	350	290	---	---	---	---
22	1290	1270	---	---	---	---	440	350	---	---	---	---
23	1310	---	---	---	---	---	450	420	---	---	---	---
24	---	---	---	---	---	---	420	390	---	---	---	---
25	---	---	---	---	---	---	390	380	---	---	---	---
26	---	---	---	---	---	---	450	390	---	---	---	---
27	---	---	---	---	---	---	450	430	---	---	---	---
28	---	---	---	---	---	---	440	430	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	660	610	690	610	740	710	590	510
2	---	---	---	---	690	650	760	690	730	710	630	500
3	---	---	---	---	700	540	800	750	720	660	700	500
4	---	---	---	---	540	370	820	770	750	660	500	260
5	---	---	---	---	400	310	840	800	660	440	530	390
6	---	---	---	---	370	310	880	820	530	470	780	390
7	---	---	---	---	540	370	910	800	520	490	620	210
8	---	---	---	---	630	540	800	310	530	480	490	420
9	---	---	---	---	660	620	---	---	530	520	570	470
10	---	---	---	---	660	620	---	---	540	520	560	460
11	---	---	---	---	640	610	---	---	580	540	500	480
12	---	---	---	---	620	430	---	---	590	570	520	490
13	---	---	---	---	580	510	---	---	620	590	550	520
14	---	---	510	480	650	570	---	---	640	620	570	550
15	---	---	540	510	660	590	470	450	690	640	580	570
16	---	---	550	450	680	650	520	470	710	580	730	570
17	---	---	460	250	700	650	540	520	720	700	760	340
18	500	380	320	200	670	620	580	540	770	720	550	340
19	380	340	220	170	620	560	600	580	780	710	400	340
20	340	310	230	220	660	620	640	580	850	770	430	360
21	380	310	330	220	690	660	590	200	900	850	480	420
22	470	380	450	330	710	680	310	220	850	700	520	480
23	510	470	500	450	700	630	410	310	730	670	560	520
24	530	510	520	500	740	680	530	410	670	610	700	280
25	540	530	540	520	770	330	570	520	620	570	610	600
26	560	540	570	540	330	270	610	570	610	580	650	610
27	---	---	580	540	580	260	640	610	610	580	630	500
28	---	---	540	520	640	540	670	640	600	560	680	620
29	---	---	520	490	650	590	690	660	600	550	690	630
30	---	---	600	470	610	590	710	690	590	520	630	620
31	---	---	670	560	---	---	720	700	580	520	---	---

4-1968. TYMOCHTEE CREEK AT CRAWFORD, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.2	8.1	7.9	7.6	---	---	---	---	---	---	---	---
2	8.4	8.1	7.9	7.8	---	---	7.6	7.5	---	---	---	---
3	8.4	8.0	7.9	7.7	---	---	7.6	7.5	---	---	---	---
4	8.2	7.6	7.8	7.7	---	---	7.6	7.5	---	---	---	---
5	8.2	7.7	7.8	7.7	---	---	7.6	7.5	---	---	---	---
6	8.0	7.6	7.8	7.3	---	---	7.6	7.5	---	---	---	---
7	7.9	7.4	7.6	7.3	---	---	7.6	7.5	---	---	---	---
8	8.0	7.5	7.8	7.3	---	---	7.6	7.5	---	---	---	---
9	8.1	7.4	7.8	7.8	---	---	7.5	7.4	---	---	---	---
10	8.3	7.9	7.8	7.8	---	---	7.5	7.4	---	---	---	---
11	8.4	7.8	7.8	7.7	---	---	7.5	7.4	---	---	8.4	8.0
12	8.3	7.9	7.7	7.1	---	---	7.5	7.4	---	---	8.4	8.0
13	8.3	7.7	7.8	7.7	---	---	7.6	7.5	---	---	8.5	8.0
14	8.4	7.6	---	---	---	---	7.6	7.5	---	---	8.5	8.0
15	8.4	7.9	---	---	---	---	7.6	7.5	---	---	---	---
16	8.0	7.7	---	---	---	---	7.6	7.5	---	---	---	---
17	8.0	7.6	---	---	---	---	7.6	7.4	---	---	---	---
18	7.7	7.5	---	---	---	---	7.4	7.3	---	---	---	---
19	7.8	7.3	---	---	---	---	---	---	---	---	---	---
20	7.8	7.5	---	---	---	---	---	---	---	---	---	---
21	7.8	7.6	---	---	---	---	7.3	7.3	---	---	---	---
22	7.9	7.6	---	---	---	---	7.5	7.3	---	---	---	---
23	7.9	7.8	---	---	---	---	7.6	7.5	---	---	---	---
24	7.9	7.7	---	---	---	---	7.6	7.5	---	---	---	---
25	7.9	7.7	---	---	---	---	7.6	7.5	---	---	---	---
26	7.9	7.7	---	---	---	---	7.6	7.1	---	---	---	---
27	7.9	7.8	---	---	---	---	7.6	7.5	---	---	---	---
28	8.0	7.8	---	---	---	---	---	---	---	---	---	---
29	8.0	7.9	---	---	---	---	---	---	---	---	---	---
30	8.0	7.9	---	---	---	---	---	---	---	---	---	---
31	8.0	7.9	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.2	7.4	8.3	6.7	8.1	7.9	7.0	6.8
2	---	---	---	---	7.9	7.4	8.4	6.4	8.0	7.8	7.0	6.9
3	---	---	---	---	7.7	7.3	8.5	6.4	8.0	7.6	7.1	6.9
4	---	---	---	---	7.7	7.4	8.0	6.8	8.0	7.7	7.0	6.7
5	---	---	---	---	7.8	7.5	8.1	7.3	7.7	7.4	7.0	6.9
6	---	---	---	---	7.9	7.6	7.5	6.7	7.6	7.3	7.0	6.8
7	---	---	---	---	7.6	7.4	6.7	6.0	7.6	7.3	6.9	6.6
8	---	---	---	---	7.7	7.5	7.0	6.1	7.7	7.5	6.8	6.7
9	---	---	---	---	8.0	7.6	---	---	7.6	7.5	6.8	6.6
10	---	---	---	---	8.0	7.7	---	---	7.7	7.4	6.9	6.6
11	---	---	---	---	8.0	7.8	---	---	7.7	7.3	7.0	6.7
12	---	---	---	---	7.8	7.4	---	---	7.6	7.5	7.0	6.8
13	---	---	---	---	7.8	7.3	---	---	7.8	7.4	7.1	6.7
14	---	---	7.7	7.6	7.7	7.4	---	---	8.6	7.8	7.2	6.9
15	---	---	8.1	7.7	7.8	7.2	7.7	7.6	8.4	7.5	7.2	6.9
16	---	---	8.0	7.8	7.9	7.6	7.8	7.5	8.1	7.5	7.2	7.0
17	---	---	8.0	7.8	8.0	7.7	7.7	7.5	8.0	7.7	7.0	6.9
18	7.7	7.3	7.9	6.6	7.9	7.6	7.9	7.6	8.2	7.5	7.1	6.9
19	7.6	7.2	6.7	6.4	7.7	7.5	7.9	7.7	8.1	7.6	7.0	6.9
20	7.7	7.5	6.8	6.7	7.7	7.5	8.0	7.7	8.1	5.2	7.1	6.9
21	8.0	7.5	6.9	6.7	8.0	7.7	7.7	6.3	7.8	7.2	7.2	7.0
22	8.1	7.7	7.1	6.9	8.1	7.8	6.8	6.4	7.7	7.0	7.3	7.0
23	8.3	7.8	7.4	7.1	8.1	7.8	7.1	6.8	7.8	7.1	7.4	7.2
24	8.4	8.1	7.5	7.3	8.1	7.8	7.5	7.1	7.7	7.0	7.2	6.6
25	8.5	8.3	7.5	7.4	9.0	8.0	7.7	7.4	7.3	6.9	7.3	7.1
26	---	8.3	7.6	7.4	8.4	6.0	7.8	7.6	7.3	6.8	7.7	7.2
27	---	---	7.7	7.5	7.0	6.2	7.9	7.7	7.2	6.8	7.6	6.9
28	---	---	7.6	7.3	7.7	6.7	7.9	7.7	7.4	6.9	7.5	7.3
29	---	---	7.8	7.4	7.5	6.7	8.0	7.8	7.2	6.7	7.9	7.5
30	---	---	7.9	7.5	8.0	6.9	8.0	7.8	7.0	6.7	8.0	7.6
31	---	---	8.2	7.4	---	---	8.1	7.8	6.9	6.7	---	---

4-1968. TYMOCHTEE CREEK AT CRAWFORD, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	7.1	12.8	10.6	---	---	---	---	---	---	---	---
2	9.0	4.7	11.7	10.4	---	---	12.1	11.8	---	---	---	---
3	8.6	6.0	11.2	9.5	---	---	11.8	11.7	---	---	---	---
4	8.6	6.4	11.3	9.9	---	---	11.9	11.7	---	---	---	---
5	8.9	7.1	11.2	9.9	---	---	11.7	11.4	---	---	---	---
6	8.0	7.2	10.4	9.7	---	---	11.4	10.9	---	---	---	---
7	8.2	6.4	10.6	9.6	---	---	11.2	10.6	---	---	---	---
8	9.0	6.9	11.7	10.0	---	---	10.8	10.2	---	---	---	---
9	9.2	7.6	12.9	11.0	---	---	10.9	10.1	---	---	---	---
10	9.7	7.6	12.5	11.5	---	---	10.9	10.0	---	---	---	---
11	9.7	8.0	12.3	11.6	---	---	11.0	10.0	---	---	15.0	12.3
12	9.2	7.8	12.8	11.5	---	---	10.9	9.9	---	---	15.0	9.4
13	9.3	7.8	13.4	11.7	---	---	11.1	9.9	---	---	11.6	8.0
14	8.7	7.2	12.9	11.9	---	---	11.4	10.0	---	---	10.4	7.4
15	8.3	6.9	12.3	10.5	---	---	11.6	10.0	---	---	---	---
16	8.1	7.1	10.6	9.2	---	---	11.7	10.1	---	---	---	---
17	8.5	6.4	9.6	8.5	---	---	11.5	10.0	---	---	---	---
18	7.8	6.0	10.1	8.3	---	---	11.4	10.6	---	---	---	---
19	8.9	5.7	10.9	8.8	---	---	---	---	---	---	---	---
20	9.7	7.5	11.9	9.8	---	---	---	---	---	---	---	---
21	10.2	8.5	---	---	---	---	13.9	13.3	---	---	---	---
22	10.5	9.2	---	---	---	---	13.7	13.3	---	---	---	---
23	11.5	9.8	---	---	---	---	13.9	13.1	---	---	---	---
24	10.9	9.2	---	---	---	---	15.0	12.8	---	---	---	---
25	10.9	9.2	---	---	---	---	13.6	11.8	---	---	---	---
26	12.0	9.8	---	---	---	---	12.1	10.4	---	---	---	---
27	12.7	10.8	---	---	---	---	11.8	9.4	---	---	---	---
28	12.8	11.1	---	---	---	---	10.3	9.7	---	---	---	---
29	13.2	11.5	---	---	---	---	---	---	---	---	---	---
30	13.2	12.2	---	---	---	---	---	---	---	---	---	---
31	13.3	12.3	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	10.7	5.7	7.2	5.7	8.9	6.9	9.1	5.0
2	---	---	---	---	9.1	7.5	8.0	6.0	9.8	6.5	7.9	4.1
3	---	---	---	---	8.6	7.5	9.2	6.0	10.4	5.6	7.5	4.7
4	---	---	---	---	8.9	7.4	8.7	6.0	8.4	6.7	5.4	5.0
5	---	---	---	---	8.7	7.3	8.3	5.6	7.2	5.8	5.6	5.2
6	---	---	---	---	9.2	7.3	7.2	5.8	8.2	6.5	5.4	5.1
7	---	---	---	---	9.8	6.8	6.7	6.0	8.5	6.5	6.9	5.2
8	---	---	---	---	7.9	6.7	6.9	5.0	8.8	6.3	6.5	5.4
9	---	---	---	---	9.2	7.0	---	---	7.5	6.6	7.1	6.0
10	---	---	---	---	8.7	5.7	---	---	9.2	6.8	7.2	7.1
11	---	---	---	---	6.3	5.3	---	---	9.6	6.8	7.5	7.1
12	---	---	---	---	6.0	4.5	---	---	10.6	7.0	7.6	6.8
13	---	---	---	---	5.9	3.3	---	---	11.5	7.2	8.1	7.0
14	---	---	9.1	8.7	5.8	4.2	---	---	12.0	7.2	8.7	6.9
15	---	---	8.9	8.5	5.9	4.6	7.0	6.9	13.3	5.8	9.2	6.7
16	---	---	8.6	7.9	9.0	5.0	6.4	6.0	10.7	5.5	8.2	6.4
17	---	---	8.0	7.6	8.4	7.5	6.0	4.4	10.3	5.7	7.1	6.7
18	8.4	4.9	7.8	6.8	7.6	7.0	5.9	5.1	12.2	5.5	7.1	6.6
19	6.7	5.5	6.8	4.7	7.8	6.9	6.4	5.1	11.0	5.0	7.0	6.8
20	7.0	6.1	5.1	4.6	7.6	7.3	6.4	5.2	11.5	1.5	7.0	7.0
21	6.9	6.3	5.1	4.8	8.8	7.2	5.8	4.6	8.9	6.6	7.2	7.0
22	7.4	6.8	5.7	5.1	9.0	7.3	4.7	4.5	7.8	6.5	7.2	6.9
23	7.8	7.2	6.9	5.7	8.8	7.1	4.9	4.7	9.4	7.0	6.9	6.6
24	7.9	7.0	6.8	6.2	9.2	6.8	5.8	5.0	10.8	6.8	6.8	5.7
25	7.5	5.5	6.4	6.1	8.5	6.0	6.2	5.8	11.2	6.3	7.0	6.7
26	7.2	5.6	6.5	6.2	6.0	5.5	6.5	6.1	10.6	5.7	7.6	5.8
27	---	---	6.4	6.0	5.6	5.3	6.7	6.1	9.7	6.0	7.9	5.8
28	---	---	6.7	5.8	5.5	5.3	7.0	5.2	12.1	6.2	8.5	7.9
29	---	---	6.3	5.5	5.8	5.4	7.5	6.4	11.9	5.9	9.5	8.5
30	---	---	6.5	5.4	6.2	5.6	7.9	6.7	13.0	6.1	11.2	9.0
31	---	---	7.4	5.6	---	---	8.8	7.0	12.9	5.6	---	---

4-1968. TYMOCHTEE CREEK AT CRAWFORD, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	15.0	13.0	7.0	---	---	---	---	---	---	---	---
2	21.0	18.0	14.0	11.0	---	---	0.0	0.0	---	---	---	---
3	20.0	16.0	12.0	11.0	---	---	0.0	0.0	---	---	---	---
4	16.0	12.0	11.0	10.0	---	---	0.0	0.0	---	---	---	---
5	15.0	11.0	11.0	10.0	---	---	0.0	0.0	---	---	---	---
6	13.0	12.0	11.0	10.0	---	---	0.0	0.0	---	---	---	---
7	13.0	11.0	10.0	8.0	---	---	0.0	0.0	---	---	---	---
8	15.0	11.0	8.0	6.0	---	---	0.0	0.0	---	---	---	---
9	16.0	12.0	6.0	4.0	---	---	0.0	0.0	---	---	---	---
10	17.0	14.0	6.0	4.0	---	---	0.0	0.0	---	---	---	---
11	16.0	13.0	5.0	4.0	---	---	0.0	0.0	---	---	2.0	0.0
12	18.0	14.0	5.0	3.0	---	---	0.0	0.0	---	---	3.0	0.0
13	18.0	14.0	5.0	2.0	---	---	0.0	0.0	---	---	4.0	0.0
14	20.0	15.0	5.0	4.0	---	---	0.0	0.0	---	---	4.0	0.0
15	21.0	17.0	9.0	5.0	---	---	0.0	0.0	---	---	---	---
16	20.0	17.0	8.0	8.0	---	---	0.0	0.0	---	---	---	---
17	21.0	18.0	8.0	8.0	---	---	0.0	0.0	---	---	---	---
18	20.0	17.0	8.0	6.0	---	---	0.0	0.0	---	---	---	---
19	17.0	15.0	6.0	4.0	---	---	---	---	---	---	---	---
20	16.0	13.0	4.0	3.0	---	---	---	---	---	---	---	---
21	15.0	12.0	---	---	---	---	0.0	0.0	---	---	---	---
22	13.0	11.0	---	---	---	---	0.0	0.0	---	---	---	---
23	12.0	10.0	---	---	---	---	2.0	0.0	---	---	---	---
24	10.0	9.0	---	---	---	---	4.0	2.0	---	---	---	---
25	9.0	8.0	---	---	---	---	2.0	1.0	---	---	---	---
26	9.0	7.0	---	---	---	---	1.0	1.0	---	---	---	---
27	10.0	6.0	---	---	---	---	3.0	1.0	---	---	---	---
28	8.0	6.0	---	---	---	---	2.0	1.0	---	---	---	---
29	7.0	5.0	---	---	---	---	---	---	---	---	---	---
30	7.0	5.0	---	---	---	---	---	---	---	---	---	---
31	9.0	4.0	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	26.0	21.0	28.0	23.0	26.0	22.0	26.0	23.0
2	---	---	---	---	22.0	19.0	28.0	22.0	28.0	22.0	24.0	20.0
3	---	---	---	---	19.0	16.0	29.0	22.0	28.0	21.0	24.0	22.0
4	---	---	---	---	20.0	16.0	27.0	23.0	24.0	22.0	23.0	21.0
5	---	---	---	---	20.0	17.0	27.0	24.0	25.0	22.0	24.0	22.0
6	---	---	---	---	21.0	18.0	25.0	22.0	27.0	21.0	26.0	21.0
7	---	---	---	---	22.0	15.0	22.0	20.0	27.0	21.0	23.0	20.0
8	---	---	---	---	21.0	18.0	20.0	19.0	28.0	23.0	25.0	21.0
9	---	---	---	---	22.0	17.0	---	---	24.0	22.0	21.0	19.0
10	---	---	---	---	22.0	17.0	---	---	27.0	20.0	20.0	18.0
11	---	---	---	---	21.0	19.0	---	---	27.0	20.0	20.0	18.0
12	---	---	---	---	25.0	21.0	---	---	27.0	20.0	22.0	16.0
13	---	---	---	---	26.0	21.0	---	---	27.0	21.0	22.0	17.0
14	---	---	15.0	12.0	23.0	20.0	---	---	28.0	22.0	22.0	17.0
15	---	---	17.0	14.0	20.0	17.0	25.0	24.0	29.0	23.0	23.0	18.0
16	---	---	19.0	16.0	21.0	16.0	27.0	23.0	27.0	23.0	21.0	20.0
17	---	---	20.0	18.0	20.0	16.0	28.0	25.0	26.0	23.0	20.0	15.0
18	15.0	12.0	19.0	17.0	19.0	18.0	30.0	25.0	28.0	22.0	18.0	17.0
19	14.0	11.0	18.0	17.0	21.0	18.0	29.0	25.0	28.0	24.0	17.0	16.0
20	17.0	12.0	18.0	17.0	20.0	18.0	27.0	24.0	27.0	22.0	16.0	16.0
21	18.0	14.0	19.0	17.0	23.0	17.0	25.0	23.0	26.0	21.0	17.0	16.0
22	17.0	14.0	18.0	16.0	20.0	17.0	25.0	24.0	24.0	20.0	19.0	16.0
23	14.0	13.0	16.0	15.0	22.0	18.0	25.0	24.0	26.0	20.0	20.0	17.0
24	16.0	14.0	17.0	15.0	22.0	19.0	24.0	23.0	27.0	20.0	18.0	17.0
25	---	14.0	17.0	16.0	21.0	19.0	25.0	23.0	28.0	21.0	17.0	15.0
26	---	15.0	18.0	15.0	23.0	22.0	26.0	23.0	27.0	21.0	18.0	15.0
27	---	---	19.0	16.0	24.0	22.0	27.0	24.0	25.0	20.0	16.0	15.0
28	---	---	22.0	17.0	26.0	24.0	25.0	23.0	25.0	21.0	17.0	14.0
29	---	---	24.0	20.0	26.0	24.0	24.0	22.0	25.0	22.0	16.0	13.0
30	---	---	25.0	21.0	27.0	24.0	26.0	21.0	26.0	22.0	18.0	14.0
31	---	---	26.0	20.0	---	---	27.0	21.0	26.0	23.0	---	---

4-1969.9. SANDUSKY RIVER AT ST. JOHNS BRIDGE, NEAR MEXICO, OHIO

LOCATION.--Lat 41°01'49", long 83°12'56", in sec. 23, T. 1N., R. 14E., Seneca County, at right upstream abutment of St. Johns Bridge, on Seneca County Highway 6, 100 ft downstream from dam, 2.5 miles upstream from gaging station, 6.5 miles upstream from Honey Creek, and 4.5 miles northwest of Mexico, Wyandot County.
DRAINAGE AREA.--771 sq mi.
PERIOD OF RECORD.--Chemical analyses: June to September 1969.
Water temperatures: June to September 1969.
REMARKS.--Continuous water quality recorder operated since June 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, JUNE TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
JULY											
17...	1315	158	0	82	16	.5	26	328	226	96	500
AUG.											
25...	1515	166	4	111	18	.5	8.3	352	272	129	559

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	620	570	730	690	600	590
2	---	---	---	---	---	---	650	620	720	700	620	600
3	---	---	---	---	---	---	670	640	700	670	630	600
4	---	---	---	---	---	---	700	660	700	660	670	630
5	---	---	---	---	---	---	720	680	660	630	780	670
6	---	---	---	---	---	---	740	710	680	660	810	780
7	---	---	---	---	---	---	750	710	---	---	800	690
8	---	---	---	---	---	---	770	370	---	---	690	550
9	---	---	---	---	---	---	440	360	---	---	640	570
10	---	---	---	---	---	---	410	370	---	---	670	570
11	---	---	---	---	---	---	490	410	---	---	750	670
12	---	---	---	---	---	---	560	490	---	---	780	710
13	---	---	---	---	---	---	600	480	710	670	710	660
14	---	---	---	---	---	---	630	530	710	670	670	660
15	---	---	---	---	---	---	560	510	710	680	680	660
16	---	---	---	---	---	---	530	500	740	710	680	660
17	---	---	---	---	---	---	500	490	780	740	680	660
18	---	---	---	---	---	---	540	500	830	780	670	640
19	---	---	---	---	---	---	590	540	850	830	690	440
20	---	---	---	---	610	600	590	520	890	850	460	410
21	---	---	---	---	620	610	720	530	940	640	440	410
22	---	---	---	---	650	620	710	320	640	480	480	440
23	---	---	---	---	680	650	340	320	550	490	520	480
24	---	---	---	---	710	680	410	340	550	530	580	520
25	---	---	---	---	730	710	490	410	590	550	630	580
26	---	---	---	---	730	720	550	490	600	580	670	630
27	---	---	---	---	750	600	590	550	590	530	680	670
28	---	---	---	---	600	380	630	590	580	550	730	670
29	---	---	---	---	490	410	660	630	600	550	750	730
30	---	---	---	---	570	490	690	660	600	580	760	740
31	---	---	---	---	---	---	710	690	590	570	---	---

4-1969.9. SANDUSKY RIVER AT ST. JOHNS BRIDGE, NEAR MEXICO, OHIO--Continued

DISSOLVED OXYGEN(DO), IN MILLIGRAMS PER LITER, JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	6.7	6.2	8.3	6.9	8.6	7.4
2	---	---	---	---	---	---	7.2	6.2	9.6	8.3	7.9	6.7
3	---	---	---	---	---	---	7.8	6.2	11.2	9.4	8.9	6.4
4	---	---	---	---	---	---	8.5	6.5	10.4	9.2	8.1	6.0
5	---	---	---	---	---	---	8.3	6.8	9.8	7.7	7.0	5.8
6	---	---	---	---	---	---	8.0	7.3	9.0	7.4	7.3	6.4
7	---	---	---	---	---	---	7.4	6.6	---	---	7.3	5.3
8	---	---	---	---	---	---	7.3	6.6	---	---	5.4	5.0
9	---	---	---	---	---	---	7.6	7.3	---	---	5.8	5.2
10	---	---	---	---	---	---	7.6	7.2	---	---	5.9	5.5
11	---	---	---	---	---	---	7.2	6.9	---	---	6.5	5.7
12	---	---	---	---	---	---	7.0	6.7	---	---	6.9	5.9
13	---	---	---	---	---	---	6.9	6.7	9.7	6.5	7.1	6.0
14	---	---	---	---	---	---	7.0	6.7	9.8	7.7	7.3	6.5
15	---	---	---	---	---	---	6.9	6.8	9.2	7.5	7.2	5.2
16	---	---	---	---	---	---	6.8	6.5	9.2	6.4	7.1	4.9
17	---	---	---	---	---	---	6.5	6.3	8.5	7.3	6.2	5.0
18	---	---	---	---	---	---	6.3	6.0	8.0	6.5	6.5	6.0
19	---	---	---	---	---	---	6.3	6.0	7.9	6.6	6.5	6.4
20	---	---	---	---	7.8	7.6	6.2	5.8	6.8	5.8	6.5	6.2
21	---	---	---	---	7.7	7.4	6.7	5.8	9.1	6.8	6.5	6.4
22	---	---	---	---	7.6	7.4	6.7	5.7	7.7	7.2	6.4	5.9
23	---	---	---	---	7.7	7.4	6.9	5.7	7.5	7.2	5.9	5.6
24	---	---	---	---	7.7	7.5	6.1	5.9	7.3	7.1	6.0	5.6
25	---	---	---	---	7.6	7.4	6.3	6.1	7.2	6.7	6.1	5.8
26	---	---	---	---	7.6	7.3	6.4	6.2	7.4	6.7	6.2	6.1
27	---	---	---	---	7.7	6.6	6.4	6.3	12.2	6.6	6.4	6.0
28	---	---	---	---	6.6	6.2	6.5	6.3	11.0	8.0	6.9	6.4
29	---	---	---	---	6.3	6.1	6.7	6.4	10.9	7.8	7.3	6.9
30	---	---	---	---	6.2	5.9	6.9	6.4	9.2	8.0	8.1	7.3
31	---	---	---	---	---	---	7.3	6.3	9.6	8.4	---	---

TEMPERATURE (°C) OF WATER, JUNE TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	--	--	--	--	--	--	20.0	19.0	--	--
2	--	--	--	--	--	--	--	--	19.0	19.0	--	--
3	--	--	--	--	--	--	--	--	20.0	19.0	--	--
4	--	--	--	--	--	--	--	--	19.0	19.0	--	--
5	--	--	--	--	--	--	--	--	19.0	19.0	--	--
6	--	--	--	--	--	--	--	--	19.0	19.0	--	--
7	--	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	20.0	20.0	--	--	--	--
9	--	--	--	--	--	--	21.0	20.0	--	--	--	--
10	--	--	--	--	--	--	22.0	21.0	--	--	--	--
11	--	--	--	--	--	--	24.0	22.0	--	--	--	--
12	--	--	--	--	--	--	24.0	23.0	--	--	--	--
13	--	--	--	--	--	--	25.0	24.0	22.0	21.0	--	--
14	--	--	--	--	--	--	25.0	24.0	22.0	21.0	--	--
15	--	--	--	--	--	--	25.0	24.0	25.0	21.0	--	--
16	--	--	--	--	--	--	24.0	24.0	--	--	--	--
17	--	--	--	--	--	--	24.0	23.0	--	--	--	--
18	--	--	--	--	--	--	24.0	24.0	--	--	--	--
19	--	--	--	--	--	--	24.0	24.0	--	--	--	--
20	--	--	--	--	--	--	24.0	23.0	--	--	--	--
21	--	--	--	--	--	--	23.0	23.0	--	--	--	--
22	--	--	--	--	--	--	24.0	22.0	--	--	--	--
23	--	--	--	--	--	--	23.0	22.0	--	--	--	--
24	--	--	--	--	--	--	22.0	22.0	--	--	--	--
25	--	--	--	--	--	--	22.0	21.0	--	--	--	--
26	--	--	--	--	--	--	22.0	21.0	--	--	--	--
27	--	--	--	--	--	--	22.0	21.0	--	--	--	--
28	--	--	--	--	--	--	22.0	21.0	--	--	--	--
29	--	--	--	--	--	--	21.0	20.0	--	--	--	--
30	--	--	--	--	--	--	21.0	20.0	--	--	--	--
31	--	--	--	--	--	--	20.0	19.0	--	--	--	--

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO

LOCATION.--Lat 41°22'12", long 83°06'10", Sandusky County, on left bank at rear of 1899 Port Clinton Road, 2.2 miles downstream from State Street bridge in Fremont, 7 miles downstream from gaging station near Fremont, and 4 miles upstream from Muskellunge Creek.
DRAINAGE AREA.--1,264 sq mi.
PERIOD OF RECORD.--Chemical analyses: September 1966 to September 1969.
Water temperatures: September 1966 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,070 micromhos Nov. 8; minimum, 260 micromhos May 19.
Water temperatures: Maximum, 28°C June 28-30, July 3, 18, Aug. 27; minimum, freezing point on several days during December to February.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
06...	1109	37	250	0	200	54	.8
NOV.							
09...	1400	72	330	0	212	58	1.0
30...	1120	846	200	8	168	42	.6
DEC.							
07...	1140	1210	148	0	114	27	.4
21...	0805	143	198	4	146	34	.5
JAN.							
18...	1130	4500	236	0	156	44	.4
25...	1345	2400	132	0	88	19	.3
FEB.							
01...	1445	10700	94	0	45	13	.3
26...	1630	1010	244	0	163	29	.5
MAR.							
01...	1315	655	180	0	119	24	.4
22...	1230	243	228	0	176	32	.5
APR.							
17...	0910	562	222	0	154	24	.4
19...	1320	11100	122	0	70	17	.5
MAY							
03...	1545	600	204	0	121	22	.3
10...	1600	4830	119	0	63	14	.2
JUNE							
03...	1300	375	226	0	121	29	.3
21...	2100	338	172	0	92	24	.3
JULY							
05...	1600	2540	96	0	38	12	.3
09...	1015	2390	196	0	114	25	.3
AUG.							
02...	1600	305	196	0	88	21	.5
28...	0900	75	218	0	193	35	.7
SEPT.							
13...	1300	108	210	0	178	28	.8
27...	1600	243	150	0	173	22	.5

GPO 822-622 - 19

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO--Continued

EXTREMES, 1966-69.--Specific conductance (1967-69): Maximum, 1,070 micromhos Nov. 8, 1968; minimum, 220 micromhos Jan. 30, 31, 1968.
Water temperatures: Maximum, 30°C June 9-12, 1968; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since September 1966. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 04-1980.00 Sandusky River near Fremont, Ohio (drainage area 1,251 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)
OCT.						
06...	10	1.6	602	396	191	947
NOV.						
09...	.2	3.8	684	446	175	1040
30...	21	1.0	560	368	190	800
DEC.						
07...	29	.55	382	272	151	587
21...	27	.80	476	344	175	736
JAN.						
18...	20	.92	538	373	179	818
25...	24	.45	336	228	120	491
FEB.						
01...	23	.73	222	153	76	332
26...	15	.55	572	390	190	787
MAR.						
01...	23	.45	454	304	156	635
22...	11	.64	574	381	194	785
APR.						
17...	15	.54	504	348	166	695
19...	24	.68	304	202	102	426
MAY						
03...	18	.52	424	320	153	645
10...	30	.54	270	124	26	400
JUNE						
03...	17	.92	424	348	163	690
21...	29	1.0	352	280	139	572
JULY						
05...	15	.62	176	135	56	291
09...	20	.45	384	306	145	624
AUG.						
02...	13	1.5	340	262	101	572
28...	5.3	1.2	518	374	195	821
SEPT.						
13...	11	1.6	464	355	183	742
27...	17	1.3	288	224	101	514

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	900	850	1050	920	800	730	600	500	---	---	640	590
2	920	870	1040	930	740	690	650	600	---	---	620	580
3	940	870	1030	950	690	650	650	620	---	---	620	580
4	950	900	1030	970	660	630	---	---	---	---	630	580
5	960	920	1020	960	690	640	---	---	---	---	640	580
6	950	850	1000	920	640	590	---	---	---	---	660	600
7	960	860	1060	860	600	580	---	---	---	---	660	620
8	990	950	1070	910	---	---	---	---	---	---	690	620
9	990	930	1040	990	---	---	---	---	---	---	700	680
10	960	860	1030	980	---	---	---	---	---	---	720	660
11	960	930	1030	930	---	---	---	---	---	---	740	700
12	950	930	1060	930	---	---	---	---	---	---	740	700
13	940	900	1060	1030	---	---	---	---	---	---	750	720
14	940	890	1060	1000	---	---	---	---	710	680	740	690
15	970	920	1040	1010	---	---	---	---	720	670	760	700
16	940	900	---	---	---	---	---	---	730	680	760	700
17	950	920	---	---	---	---	---	---	720	700	740	690
18	950	850	---	---	---	---	---	---	750	700	740	700
19	960	850	---	---	700	680	---	---	760	740	760	670
20	940	900	880	850	740	700	---	---	760	740	750	670
21	930	890	890	860	750	700	---	---	760	740	750	700
22	940	820	860	850	750	610	---	---	780	740	800	720
23	930	840	870	850	730	650	---	---	780	750	---	---
24	920	870	870	820	770	730	---	---	800	780	---	---
25	970	890	820	800	820	770	---	---	790	740	---	---
26	980	920	830	800	810	760	---	---	790	750	---	---
27	980	920	820	790	790	710	---	---	760	660	---	---
28	980	870	810	770	710	510	---	---	660	610	---	---
29	1000	960	820	770	510	450	---	---	---	---	---	---
30	1030	980	830	800	480	410	---	---	---	---	640	600
31	1050	1000	---	---	500	410	---	---	---	---	640	610

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	640	630	640	610	660	630	730	670	560	530	720	700
2	630	580	650	640	680	660	710	680	580	560	740	710
3	660	620	660	640	690	680	690	630	610	580	740	710
4	690	590	660	580	700	690	640	560	610	590	720	690
5	660	590	650	570	710	700	---	---	610	590	710	660
6	660	490	640	570	700	680	---	---	610	580	670	640
7	520	490	640	570	690	670	---	---	600	560	640	600
8	500	460	670	580	690	680	---	---	580	560	640	610
9	510	450	630	440	680	660	---	---	580	570	690	640
10	550	470	460	380	660	640	---	---	610	580	710	670
11	580	520	460	360	690	660	---	---	640	610	700	670
12	580	540	440	410	680	660	---	---	640	610	740	640
13	600	560	440	420	680	670	---	---	640	620	750	720
14	640	580	460	430	690	670	---	---	630	620	740	670
15	680	580	500	460	700	680	---	---	640	620	710	670
16	680	620	540	500	730	680	---	---	650	620	690	660
17	700	620	570	540	700	620	---	---	660	620	690	650
18	660	580	580	400	630	620	590	550	680	660	680	590
19	580	400	400	260	620	570	560	530	690	660	630	560
20	420	410	290	270	580	570	550	540	690	670	610	570
21	420	330	290	290	590	570	540	500	700	660	610	520
22	410	340	330	290	600	580	500	430	700	660	520	500
23	450	350	410	330	620	590	530	400	740	690	520	480
24	480	450	470	410	630	620	400	380	750	720	520	480
25	510	480	530	470	640	620	400	380	790	750	510	460
26	520	500	560	530	670	640	420	390	790	740	510	470
27	540	520	590	560	680	660	440	420	810	770	540	500
28	540	490	610	580	710	670	470	440	820	760	560	540
29	580	500	620	600	730	680	500	470	820	760	590	560
30	610	570	640	620	740	680	510	500	780	720	610	510
31	---	---	640	630	---	---	530	510	740	700	---	---

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	8.0	7.7	7.9	7.6	8.0	7.7	7.9	7.7
2	---	---	---	---	7.9	7.6	7.7	7.4	7.9	7.6	7.7	7.2
3	---	---	---	---	7.7	7.6	7.8	7.3	8.0	7.6	7.2	7.0
4	---	---	---	---	7.9	7.6	7.7	7.4	8.3	7.7	7.2	6.9
5	---	---	---	---	7.8	7.7	---	---	8.3	7.6	7.0	6.8
6	---	---	---	---	7.9	7.7	---	---	8.3	7.9	6.8	6.7
7	---	---	---	---	7.9	7.6	---	---	8.3	7.8	6.8	6.7
8	---	---	---	---	7.9	7.6	---	---	8.5	7.6	6.7	6.7
9	---	---	---	---	7.9	7.5	---	---	8.3	8.0	6.8	6.7
10	---	---	---	---	8.1	7.5	---	---	8.2	7.5	7.0	6.8
11	---	---	---	---	7.9	7.1	---	---	8.2	7.6	7.2	6.8
12	---	---	---	---	7.7	7.3	---	---	8.3	7.7	7.2	6.8
13	---	---	---	---	7.7	7.5	---	---	8.4	7.9	7.6	6.8
14	---	---	8.7	8.1	7.7	7.5	---	---	8.2	7.9	7.5	7.2
15	---	---	8.7	7.4	7.5	7.3	---	---	8.1	7.8	7.3	7.1
16	---	---	7.6	7.3	7.5	7.4	---	---	8.2	7.8	7.2	7.0
17	---	---	7.3	7.2	7.5	7.3	---	---	8.2	7.8	7.0	6.9
18	---	---	7.4	7.0	7.4	7.3	7.9	7.4	7.8	7.4	7.0	6.8
19	---	---	7.0	6.9	7.4	7.2	7.8	7.5	8.4	7.5	6.8	6.7
20	---	---	7.0	6.9	7.3	7.2	7.8	7.6	8.1	7.7	6.9	6.7
21	---	---	7.0	7.0	7.3	7.2	7.9	7.6	7.9	7.6	6.8	6.8
22	---	---	7.0	7.0	7.4	7.2	7.8	7.6	8.1	7.8	6.8	6.7
23	---	---	7.2	7.0	7.4	7.2	7.9	7.6	8.1	7.5	6.8	6.7
24	---	---	7.3	7.2	7.5	7.3	7.6	7.5	8.0	7.6	6.8	6.6
25	---	---	7.5	7.3	7.8	7.4	7.6	7.5	7.8	7.6	6.7	6.6
26	---	---	7.7	7.4	7.9	7.6	7.6	7.5	8.0	7.8	6.9	6.5
27	---	---	7.5	7.4	8.0	7.7	7.6	7.4	8.1	6.6	7.0	6.9
28	---	---	7.5	7.4	8.0	7.6	7.6	7.5	8.2	7.8	6.9	6.8
29	---	---	7.6	7.4	7.9	7.8	7.5	7.4	8.2	7.5	7.2	6.9
30	---	---	7.9	7.4	8.0	7.6	7.5	7.4	8.2	7.9	7.4	7.1
31	---	---	8.0	7.6	---	---	7.8	7.5	8.2	7.8	---	---

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	0.0	0.0	9.9	8.9	13.0	10.8	---	---	13.0	12.4
2	0.0	0.0	1.4	0.0	9.9	9.4	10.8	7.1	---	---	13.2	12.2
3	2.9	0.0	3.4	0.0	9.8	9.0	---	---	---	---	13.0	12.2
4	4.0	0.0	2.4	1.5	9.1	6.8	---	---	---	---	12.9	12.2
5	7.2	0.0	2.9	0.0	9.1	7.6	---	---	---	---	13.2	12.2
6	3.6	1.2	1.2	0.1	10.0	9.1	---	---	---	---	13.4	12.2
7	3.7	0.5	0.4	0.0	10.4	9.2	---	---	---	---	13.0	12.0
8	3.4	0.0	1.8	0.0	10.8	10.2	---	---	---	---	13.7	12.0
9	6.1	0.3	0.0	0.0	---	---	---	---	---	---	13.2	11.8
10	5.3	2.1	0.0	0.0	---	---	---	---	---	---	14.0	12.3
11	7.3	1.4	0.0	0.0	---	---	---	---	---	---	13.4	12.3
12	5.4	2.2	0.0	0.0	---	---	---	---	---	---	14.6	12.6
13	5.8	3.3	0.8	0.0	---	---	---	---	---	---	15.0	13.2
14	5.8	2.0	2.5	0.4	---	---	---	---	---	---	14.7	13.0
15	7.7	4.5	3.7	2.5	---	---	---	---	---	---	14.3	13.0
16	6.9	0.0	---	---	---	---	---	---	---	---	14.6	12.8
17	0.0	0.0	---	---	---	---	---	---	---	---	14.7	13.3
18	0.0	0.0	---	---	---	---	---	---	---	---	14.4	12.6
19	1.4	0.0	---	---	13.2	12.0	---	---	---	---	15.0	12.7
20	2.8	0.0	11.6	11.1	13.1	12.0	---	---	---	---	14.8	10.7
21	2.7	0.2	11.7	11.1	12.0	9.9	---	---	---	---	11.1	9.9
22	2.6	1.5	12.0	11.0	12.3	10.1	---	---	---	---	11.7	9.2
23	2.8	0.3	11.3	10.4	12.6	11.4	---	---	---	---	---	---
24	3.1	1.1	11.0	10.1	13.7	12.5	---	---	---	---	---	---
25	1.4	0.2	10.1	7.4	13.9	13.4	---	---	---	---	---	---
26	1.1	0.0	8.3	6.9	14.0	13.1	---	---	---	---	---	---
27	0.7	0.0	8.0	5.9	13.2	12.2	---	---	12.6	12.1	---	---
28	0.0	0.0	9.0	7.1	13.2	11.9	---	---	12.4	11.8	---	---
29	0.0	0.0	8.2	4.0	13.5	13.0	---	---	---	---	---	---
30	0.0	0.0	9.8	2.4	15.0	12.4	---	---	---	---	13.0	11.8
31	0.0	0.0	---	---	15.0	10.7	---	---	---	---	13.5	12.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.8	12.1	9.5	8.4	---	---	---	---	3.8	2.9	9.2	7.2
2	12.1	11.2	9.8	8.4	---	---	---	---	3.5	2.4	7.8	4.9
3	12.6	11.4	12.0	8.7	---	---	---	---	4.8	2.2	6.9	4.0
4	12.4	10.0	15.0	9.3	---	---	---	---	4.9	3.2	7.0	4.4
5	10.3	9.7	15.0	10.8	---	---	---	---	5.3	3.2	6.6	4.9
6	10.9	10.3	13.1	9.0	---	---	---	---	7.3	3.4	5.4	3.7
7	11.2	10.5	13.0	6.2	---	---	---	---	7.6	5.2	3.9	2.5
8	10.8	10.0	8.3	5.1	---	---	---	---	6.5	4.6	2.5	2.1
9	10.2	9.4	8.1	6.4	---	---	---	---	5.9	4.8	3.1	2.4
10	9.4	9.2	8.7	8.1	---	---	---	---	6.1	4.0	4.5	2.8
11	9.8	9.3	9.6	8.7	---	---	---	---	6.1	4.2	6.0	3.7
12	10.0	9.4	9.9	9.6	---	---	---	---	5.4	4.8	5.8	4.5
13	10.0	8.9	10.0	9.4	---	---	---	---	7.8	5.4	8.3	5.1
14	9.8	8.8	9.4	9.2	---	---	---	---	8.0	5.6	9.4	5.7
15	9.4	9.0	---	---	---	---	---	---	6.7	5.4	8.4	6.0
16	12.4	8.5	---	---	---	---	---	---	7.4	5.4	7.7	5.6
17	14.3	8.4	---	---	---	---	---	---	7.0	5.6	5.6	4.1
18	12.0	6.9	---	---	---	---	4.8	2.5	6.7	4.9	6.1	3.3
19	11.1	8.8	---	---	---	---	4.3	3.4	8.3	5.2	6.7	5.3
20	11.4	11.1	---	---	---	---	4.4	3.5	8.1	6.1	6.7	5.9
21	11.3	10.5	---	---	---	---	4.6	3.7	13.2	6.0	6.8	6.1
22	10.8	10.2	---	---	---	---	5.0	4.2	10.1	6.8	6.9	6.2
23	10.3	10.1	---	---	---	---	4.6	3.9	10.1	6.7	6.8	6.1
24	10.6	10.3	---	---	---	---	5.0	4.3	---	---	6.2	5.5
25	10.3	9.7	---	---	---	---	4.6	4.0	---	---	5.5	5.0
26	9.7	8.8	---	---	---	---	4.4	3.9	---	---	6.8	5.2
27	9.1	8.1	---	---	---	---	3.9	3.2	---	---	7.1	6.3
28	8.1	7.4	---	---	---	---	3.6	2.9	10.9	6.8	6.7	5.9
29	8.4	7.4	---	---	---	---	2.9	2.4	10.3	5.8	7.5	6.2
30	9.2	8.2	---	---	---	---	2.7	2.2	14.2	7.7	8.5	7.2
31	---	---	---	---	---	---	3.4	2.5	14.7	7.3	---	---

4-1980.05. SANDUSKY RIVER BELOW FREMONT, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	11.0	9.0	7.0	6.0	0.0	0.0	3.0	3.0	5.0	4.0
2	---	---	12.0	11.0	6.0	6.0	0.0	0.0	3.0	2.0	6.0	4.0
3	---	---	12.0	11.0	7.0	6.0	0.0	0.0	3.0	2.0	5.0	4.0
4	---	---	12.0	12.0	7.0	6.0	---	---	2.0	1.0	5.0	4.0
5	---	---	12.0	12.0	6.0	3.0	---	---	1.0	1.0	4.0	3.0
6	17.0	15.0	12.0	12.0	3.0	2.0	---	---	1.0	0.0	6.0	3.0
7	16.0	15.0	12.0	12.0	2.0	1.0	---	---	1.0	0.0	6.0	4.0
8	16.0	14.0	12.0	11.0	2.0	1.0	---	---	0.0	0.0	5.0	4.0
9	16.0	14.0	11.0	10.0	---	---	---	---	1.0	0.0	4.0	3.0
10	16.0	15.0	10.0	9.0	---	---	---	---	1.0	0.0	3.0	2.0
11	16.0	15.0	9.0	8.0	---	---	---	---	1.0	0.0	2.0	1.0
12	16.0	14.0	8.0	8.0	---	---	---	---	1.0	0.0	2.0	1.0
13	17.0	15.0	8.0	7.0	---	---	---	---	1.0	0.0	3.0	1.0
14	17.0	16.0	7.0	6.0	---	---	---	---	1.0	0.0	3.0	3.0
15	19.0	17.0	7.0	7.0	---	---	---	---	1.0	1.0	4.0	3.0
16	19.0	18.0	---	---	---	---	---	---	1.0	1.0	4.0	3.0
17	20.0	19.0	---	---	---	---	---	---	1.0	1.0	5.0	3.0
18	19.0	19.0	---	---	---	---	---	---	2.0	1.0	8.0	5.0
19	19.0	18.0	---	---	1.0	1.0	---	---	2.0	2.0	9.0	7.0
20	19.0	17.0	4.0	4.0	1.0	1.0	---	---	3.0	2.0	9.0	8.0
21	17.0	17.0	4.0	3.0	1.0	1.0	---	---	4.0	2.0	9.0	5.0
22	17.0	16.0	5.0	4.0	2.0	1.0	---	---	4.0	2.0	8.0	7.0
23	16.0	15.0	6.0	4.0	1.0	0.0	---	---	4.0	2.0	---	---
24	15.0	14.0	7.0	6.0	0.0	0.0	---	---	4.0	4.0	---	---
25	14.0	14.0	7.0	7.0	0.0	0.0	---	---	4.0	3.0	---	---
26	14.0	12.0	7.0	6.0	0.0	0.0	---	---	3.0	2.0	---	---
27	12.0	12.0	7.0	6.0	1.0	0.0	---	---	4.0	3.0	---	---
28	12.0	9.0	7.0	6.0	1.0	1.0	---	---	4.0	3.0	---	---
29	10.0	10.0	8.0	7.0	2.0	1.0	---	---	---	---	---	---
30	10.0	9.0	7.0	6.0	1.0	1.0	---	---	---	---	6.0	4.0
31	9.0	9.0	---	---	1.0	0.0	---	---	---	---	5.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	4.0	16.0	14.0	25.0	24.0	27.0	26.0	25.0	24.0	27.0	26.0
2	7.0	6.0	17.0	15.0	24.0	22.0	27.0	26.0	25.0	24.0	26.0	25.0
3	8.0	6.0	19.0	17.0	22.0	19.0	28.0	26.0	25.0	24.0	26.0	24.0
4	11.0	7.0	20.0	18.0	19.0	18.0	27.0	27.0	25.0	25.0	26.0	25.0
5	11.0	10.0	21.0	18.0	20.0	19.0	---	---	26.0	25.0	26.0	25.0
6	11.0	10.0	21.0	18.0	22.0	19.0	---	---	26.0	25.0	26.0	25.0
7	11.0	10.0	22.0	19.0	22.0	20.0	---	---	26.0	26.0	25.0	24.0
8	12.0	11.0	21.0	20.0	21.0	20.0	---	---	26.0	25.0	24.0	23.0
9	13.0	12.0	20.0	16.0	21.0	19.0	---	---	25.0	25.0	23.0	21.0
10	14.0	13.0	16.0	13.0	22.0	19.0	---	---	27.0	24.0	21.0	20.0
11	13.0	12.0	13.0	12.0	23.0	21.0	---	---	26.0	24.0	21.0	19.0
12	13.0	12.0	12.0	11.0	24.0	22.0	---	---	25.0	24.0	26.0	19.0
13	13.0	13.0	13.0	11.0	24.0	23.0	---	---	26.0	24.0	23.0	19.0
14	14.0	13.0	15.0	12.0	24.0	22.0	---	---	26.0	25.0	22.0	20.0
15	16.0	13.0	16.0	13.0	22.0	19.0	---	---	26.0	25.0	22.0	20.0
16	18.0	14.0	19.0	15.0	20.0	18.0	---	---	26.0	25.0	21.0	20.0
17	19.0	16.0	19.0	18.0	20.0	19.0	---	---	26.0	25.0	20.0	20.0
18	18.0	12.0	18.0	16.0	20.0	19.0	28.0	26.0	26.0	25.0	20.0	18.0
19	12.0	8.0	17.0	17.0	20.0	19.0	27.0	27.0	27.0	25.0	18.0	16.0
20	9.0	8.0	17.0	16.0	20.0	19.0	27.0	25.0	26.0	25.0	17.0	16.0
21	9.0	8.0	18.0	16.0	20.0	19.0	26.0	25.0	26.0	24.0	17.0	16.0
22	9.0	9.0	17.0	16.0	20.0	19.0	26.0	25.0	25.0	24.0	19.0	17.0
23	9.0	8.0	17.0	15.0	20.0	19.0	27.0	25.0	24.0	23.0	20.0	18.0
24	9.0	7.0	17.0	15.0	21.0	20.0	27.0	25.0	26.0	24.0	19.0	17.0
25	12.0	9.0	18.0	16.0	23.0	20.0	26.0	25.0	26.0	25.0	18.0	17.0
26	14.0	12.0	17.0	15.0	25.0	23.0	26.0	25.0	27.0	25.0	18.0	16.0
27	17.0	13.0	18.0	16.0	27.0	24.0	26.0	25.0	28.0	24.0	17.0	16.0
28	17.0	16.0	20.0	18.0	28.0	26.0	26.0	25.0	27.0	25.0	17.0	16.0
29	17.0	14.0	22.0	20.0	28.0	27.0	25.0	24.0	26.0	25.0	16.0	14.0
30	15.0	14.0	25.0	22.0	28.0	26.0	24.0	24.0	27.0	25.0	20.0	15.0
31	---	---	24.0	23.0	---	---	25.0	24.0	27.0	25.0	---	---

4-1980.18. WEST BRANCH HURON RIVER NEAR WILLARD, OHIO

LOCATION.--Lat 41°05'28", long 82°39'04", Huron County, on left bank at downstream abutment of bridge on Maple Ridge Road, 4.5 miles northeast of Willard, and 2.0 miles downstream from Walnut Creek.
DRAINAGE AREA.--86 sq mi.
PERIOD OF RECORD.--Chemical analyses: December 1968 to September 1969.
Water temperatures: December 1968 to September 1969.
EXTREMES, December 1968 to September 1969.--Specific conductance: Maximum, 1,620 micromhos Apr. 24; minimum, 140 micromhos July 5.
Water temperatures: Maximum, 30°C June 27, 28; minimum, freezing point on many days during December to February.
REMARKS.--Continuous water quality recorder operated since December 1968. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, DECEMBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
DEC.												
12...	1500	266	0	239	30	.2	14	656	476	258	942	7.7
JAN.												
09...	0930	280	0	236	26	.3	11	662	480	250	936	7.6
FEB.												
05...	1300	162	2	161	26	.3	20	492	326	189	670	8.3
14...	1300	244	0	196	22	.3	10	588	412	212	805	8.0
MAR.												
26...	1145	166	0	136	36	.2	9.4	440	288	152	662	7.5
APR.												
24...	1345	94	0	89	12	.2	9.0	270	194	117	404	7.3
29...	2020	166	4	132	20	.2	5.6	392	294	151	591	8.4
MAY												
17...	1730	235	0	181	18	.1	11	482	396	203	748	7.5
20...	2000	116	0	85	14	.1	23	264	240	145	431	7.8
JUNE												
03...	1445	190	0	127	16	.4	14	390	292	136	590	7.7
22...	1300	284	0	213	21	.4	7.7	600	452	219	872	7.8
JULY												
01...	2000	276	0	228	22	.3	.3	610	452	226	921	7.9
18...	1900	114	0	78	9.0	.4	16	220	160	66	360	7.2
AUG.												
04...	1800	182	0	214	21	.2	1.5	502	383	234	856	8.0
30...	1800	312	0	261	24	.2	.8	682	542	286	1010	7.7
SEPT.												
13...	1900	302	0	232	23	.3	1.8	642	494	246	923	8.1
17...	1845	170	0	131	37	.4	9.6	420	268	128	539	8.1

4-1980.18. WEST BRANCH HURON RIVER NEAR WILLARD, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), DECEMBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	930	730	---	---	780	710
2	---	---	---	---	---	---	880	820	---	---	770	740
3	---	---	---	---	---	---	890	850	---	---	770	720
4	---	---	---	---	---	---	940	890	---	---	790	730
5	---	---	---	---	---	---	980	940	---	---	790	730
6	---	---	---	---	---	---	980	970	---	---	810	750
7	---	---	---	---	---	---	970	940	---	---	770	760
8	---	---	---	---	---	---	950	930	---	---	790	760
9	---	---	---	---	---	---	970	940	---	---	780	760
10	---	---	---	---	---	---	980	960	---	---	780	760
11	---	---	---	---	---	---	990	970	---	---	800	730
12	---	---	---	---	940	930	990	980	---	---	850	750
13	---	---	---	---	950	920	980	970	---	---	860	790
14	---	---	---	---	940	890	990	970	840	780	840	760
15	---	---	---	---	890	880	980	970	950	840	800	750
16	---	---	---	---	970	890	---	---	940	850	840	750
17	---	---	---	---	1010	970	---	---	900	800	790	760
18	---	---	---	---	1020	1000	---	---	870	800	780	740
19	---	---	---	---	1000	920	---	---	850	820	780	730
20	---	---	---	---	920	860	---	---	860	810	780	740
21	---	---	---	---	860	800	---	---	860	800	770	750
22	---	---	---	---	820	750	---	---	870	780	760	750
23	---	---	---	---	750	610	---	---	800	740	770	740
24	---	---	---	---	790	610	---	---	740	650	780	750
25	---	---	---	---	840	780	---	---	670	640	780	670
26	---	---	---	---	870	840	---	---	690	640	670	640
27	---	---	---	---	870	410	---	---	710	680	660	630
28	---	---	---	---	470	410	---	---	770	680	680	640
29	---	---	---	---	610	470	---	---	---	---	660	570
30	---	---	---	---	680	610	---	---	---	---	640	560
31	---	---	---	---	730	680	---	---	---	---	740	590

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	720	690	680	620	840	810	930	920	860	830	1020	980
2	---	---	710	670	860	620	940	920	900	850	980	910
3	---	---	740	690	660	550	940	930	910	860	1040	980
4	630	620	760	720	700	570	960	820	890	860	1000	950
5	650	210	770	740	760	700	820	140	910	890	1030	960
6	310	280	780	720	800	760	400	240	960	880	1010	700
7	620	290	790	760	800	760	500	400	920	880	860	660
8	940	620	790	320	820	800	530	490	1010	920	800	630
9	940	810	500	320	810	800	580	510	940	870	770	690
10	810	770	560	490	820	800	630	580	1000	930	880	770
11	780	710	500	440	830	780	660	630	970	840	940	880
12	720	650	580	500	860	820	690	660	860	840	990	920
13	650	560	640	580	890	770	710	670	880	840	960	920
14	560	500	700	640	820	740	760	710	970	880	940	910
15	520	500	760	680	860	630	780	760	980	890	920	900
16	560	500	750	700	700	640	830	780	890	800	940	900
17	550	510	760	630	740	660	840	220	950	850	900	520
18	510	250	630	290	790	740	400	280	950	910	610	540
19	370	240	320	240	860	840	380	260	940	890	740	610
20	710	370	440	310	870	860	520	380	1000	900	750	700
21	720	540	510	440	890	870	580	470	990	930	790	740
22	710	630	620	510	890	870	640	580	1040	990	840	790
23	1090	640	620	560	890	860	690	640	1010	980	860	830
24	1620	400	660	620	1190	800	730	690	1020	950	870	810
25	590	490	640	620	840	800	770	730	980	930	860	830
26	620	580	700	640	850	840	790	690	960	940	880	860
27	670	610	720	690	860	840	700	540	980	950	870	840
28	680	650	740	700	850	820	760	680	1000	950	880	840
29	660	590	770	740	880	830	780	760	1080	1000	880	860
30	640	600	800	770	920	880	840	780	1050	1010	890	870
31	---	---	840	800	---	---	850	820	1070	1010	---	---

4-1980.18. WEST BRANCH HURON RIVER NEAR WILLARD, OHIO--Continued

TEMPERATURE (°C) OF WATER, DECEMBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	2.0	0.0	---	---	5.0	2.0
2	---	---	---	---	---	---	0.0	0.0	---	---	4.0	2.0
3	---	---	---	---	---	---	0.0	0.0	---	---	6.0	1.0
4	---	---	---	---	---	---	0.0	0.0	---	---	6.0	2.0
5	---	---	---	---	---	---	0.0	0.0	---	---	6.0	1.0
6	---	---	---	---	---	---	0.0	0.0	---	---	6.0	3.0
7	---	---	---	---	---	---	1.0	0.0	---	---	6.0	3.0
8	---	---	---	---	---	---	2.0	0.0	---	---	6.0	3.0
9	---	---	---	---	---	---	0.0	0.0	---	---	5.0	3.0
10	---	---	---	---	---	---	0.0	0.0	---	---	4.0	2.0
11	---	---	---	---	---	---	0.0	0.0	---	---	2.0	1.0
12	---	---	---	---	1.0	0.0	0.0	0.0	---	---	2.0	1.0
13	---	---	---	---	5.0	1.0	0.0	0.0	---	---	4.0	1.0
14	---	---	---	---	3.0	0.0	0.0	0.0	1.0	0.0	5.0	2.0
15	---	---	---	---	0.0	0.0	0.0	0.0	1.0	0.0	6.0	2.0
16	---	---	---	---	0.0	0.0	---	---	1.0	0.0	6.0	2.0
17	---	---	---	---	0.0	0.0	---	---	2.0	0.0	8.0	4.0
18	---	---	---	---	0.0	0.0	---	---	2.0	0.0	11.0	6.0
19	---	---	---	---	0.0	0.0	---	---	2.0	0.0	12.0	6.0
20	---	---	---	---	0.0	0.0	---	---	4.0	1.0	12.0	8.0
21	---	---	---	---	0.0	0.0	---	---	5.0	1.0	9.0	4.0
22	---	---	---	---	2.0	0.0	---	---	6.0	2.0	8.0	2.0
23	---	---	---	---	2.0	0.0	---	---	6.0	4.0	10.0	4.0
24	---	---	---	---	0.0	0.0	---	---	6.0	5.0	8.0	7.0
25	---	---	---	---	0.0	0.0	---	---	5.0	4.0	7.0	4.0
26	---	---	---	---	0.0	0.0	---	---	4.0	2.0	4.0	3.0
27	---	---	---	---	1.0	0.0	---	---	4.0	2.0	5.0	2.0
28	---	---	---	---	5.0	2.0	---	---	4.0	1.0	6.0	2.0
29	---	---	---	---	5.0	1.0	---	---	---	---	6.0	3.0
30	---	---	---	---	2.0	0.0	---	---	---	---	---	---
31	---	---	---	---	2.0	0.0	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	2.0	15.0	9.0	24.0	20.0	28.0	24.0	25.0	22.0	25.0	22.0
2	---	---	18.0	12.0	22.0	16.0	27.0	21.0	25.0	22.0	23.0	22.0
3	---	---	21.0	15.0	16.0	14.0	26.0	21.0	24.0	20.0	24.0	21.0
4	11.0	10.0	22.0	16.0	17.0	12.0	25.0	23.0	25.0	20.0	25.0	21.0
5	12.0	9.0	21.0	16.0	18.0	16.0	23.0	20.0	25.0	20.0	25.0	22.0
6	10.0	7.0	22.0	16.0	20.0	16.0	22.0	19.0	25.0	21.0	25.0	22.0
7	12.0	6.0	22.0	18.0	20.0	19.0	21.0	19.0	26.0	21.0	23.0	21.0
8	14.0	8.0	20.0	17.0	19.0	16.0	21.0	18.0	28.0	23.0	24.0	20.0
9	14.0	11.0	17.0	13.0	20.0	14.0	23.0	20.0	24.0	21.0	20.0	17.0
10	14.0	11.0	13.0	11.0	22.0	15.0	24.0	22.0	23.0	20.0	19.0	15.0
11	13.0	9.0	13.0	10.0	24.0	18.0	26.0	23.0	24.0	19.0	18.0	15.0
12	13.0	8.0	14.0	10.0	27.0	21.0	25.0	23.0	24.0	19.0	20.0	15.0
13	13.0	8.0	16.0	11.0	24.0	22.0	25.0	22.0	25.0	20.0	21.0	17.0
14	15.0	11.0	19.0	14.0	22.0	18.0	25.0	22.0	25.0	21.0	22.0	17.0
15	15.0	12.0	19.0	14.0	18.0	15.0	27.0	22.0	27.0	22.0	22.0	18.0
16	19.0	13.0	22.0	16.0	17.0	13.0	28.0	23.0	25.0	23.0	21.0	19.0
17	21.0	15.0	21.0	19.0	20.0	16.0	26.0	24.0	24.0	22.0	20.0	17.0
18	19.0	7.0	19.0	16.0	21.0	19.0	25.0	23.0	25.0	22.0	18.0	15.0
19	7.0	5.0	18.0	16.0	20.0	18.0	24.0	23.0	26.0	23.0	17.0	15.0
20	11.0	5.0	18.0	16.0	20.0	18.0	23.0	22.0	27.0	21.0	17.0	15.0
21	11.0	8.0	18.0	14.0	21.0	16.0	24.0	22.0	24.0	18.0	18.0	16.0
22	10.0	8.0	16.0	13.0	20.0	16.0	24.0	22.0	24.0	18.0	19.0	15.0
23	8.0	6.0	16.0	12.0	21.0	18.0	25.0	23.0	24.0	18.0	20.0	17.0
24	11.0	6.0	17.0	14.0	21.0	19.0	24.0	23.0	26.0	20.0	20.0	17.0
25	13.0	8.0	17.0	15.0	25.0	20.0	26.0	22.0	26.0	21.0	17.0	15.0
26	16.0	10.0	17.0	13.0	28.0	23.0	26.0	23.0	26.0	21.0	18.0	14.0
27	18.0	13.0	19.0	13.0	30.0	25.0	25.0	22.0	25.0	19.0	16.0	14.0
28	17.0	15.0	22.0	17.0	30.0	25.0	24.0	22.0	25.0	19.0	15.0	13.0
29	15.0	10.0	25.0	19.0	27.0	23.0	23.0	21.0	26.0	20.0	14.0	11.0
30	13.0	8.0	24.0	20.0	27.0	24.0	24.0	20.0	26.0	21.0	17.0	13.0
31	---	---	23.0	18.0	---	---	25.0	21.0	26.0	21.0	---	---

4-1991. HURON RIVER BELOW MILAN, OHIO

LOCATION.--Lat 41°20'06", long 82°34'38", Erie County, on right bank at downstream side of bridge on Mason Road, 3.5 miles northeast of Milan, and 4.2 miles downstream from the gaging station at Milan.
DRAINAGE AREA.--385 sq mi.
PERIOD OF RECORD.--Chemical analyses: June 1968 to September 1969.
Water temperatures: June 1968 to September 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
11...	2000	19	250	0	188	48	.3
30...	1600	20	305	0	204	38	.3
NOV.							
19...	1700	296	136	4	140	33	.3
27...	1800	84	200	8	182	34	.3
DEC.							
19...	1245	132	226	14	201	36	.3
28...	1300	7150	64	0	53	13	.2
JAN.							
08...	1250	100	196	8	180	32	.2
18...	1600	2500	74	0	60	16	.2
FEB.							
01...	1600	1390	90	0	78	18	.2
20...	1145	112	240	0	189	31	.2
MAR.							
18...	1830	73	230	0	186	29	.1
28...	1730	369	134	0	131	33	.2
APR.							
15...	1200	162	194	0	155	25	.3
19...	1730	7800	68	0	43	9.5	.3
MAY							
07...	1700	152	152	0	148	25	.2
22...	1230	592	142	0	94	18	.4
JUNE							
18...	1530	170	160	0	115	27	.2
25...	1900	91	213	0	150	36	.2
JULY							
01...	1900	48	188	0	160	37	.3
20...	1500	715	108	0	64	9.6	.2
AUG.							
02...	1230	79	194	6	120	22	.3
17...	1800	59	232	8	185	28	.3
SEPT.							
27...	1700	94	154	0	128	23	.4

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	960	930	1010	970	600	540	---	---	---	---	700	680
2	950	920	1010	980	640	560	---	---	---	---	700	690
3	930	910	1030	1010	640	600	---	---	---	---	710	700
4	940	920	1080	750	640	450	---	---	---	---	720	710
5	970	940	---	---	480	430	---	---	560	540	740	710
6	990	940	---	---	550	470	---	---	620	540	750	720
7	990	940	---	---	620	540	---	---	---	---	740	720
8	950	990	---	---	660	600	---	---	---	---	750	730
9	940	930	---	---	700	630	---	---	---	---	760	730
10	950	910	---	---	760	700	---	---	---	---	750	720
11	920	860	---	---	790	750	---	---	---	---	750	720
12	920	880	---	---	810	770	---	---	---	---	760	730
13	910	880	---	---	780	750	---	---	---	---	---	---
14	940	900	---	---	790	760	---	---	---	---	---	---
15	900	850	---	---	790	760	---	---	---	---	---	---
16	870	840	---	---	850	790	---	---	---	---	---	---
17	860	840	---	---	870	820	---	---	---	---	---	---
18	880	850	---	---	890	850	---	---	---	---	---	---
19	910	880	---	---	880	830	---	---	810	790	---	---
20	920	890	---	---	830	790	---	---	830	790	---	---
21	910	840	---	---	810	780	---	---	820	760	---	---
22	950	860	800	730	850	800	---	---	820	770	---	---
23	910	860	800	710	820	550	---	---	820	770	---	---
24	920	890	890	700	560	520	---	---	800	780	---	---
25	940	900	760	730	600	530	---	---	800	780	---	---
26	990	940	780	760	630	590	---	---	800	760	720	700
27	1000	960	790	780	690	610	---	---	760	700	700	610
28	1010	970	790	760	710	250	---	---	700	680	640	610
29	990	950	760	500	---	---	---	---	---	---	640	600
30	1080	930	540	480	---	---	---	---	---	---	640	610
31	1090	960	---	---	---	---	---	---	---	---	630	600
MONTH	1090	840	---	---	890	250	---	---	---	---	---	---

4-1991. HURON RIVER BELOW MILAN, OHIO--Continued

REMARKS.--Continuous water quality recorder operated since June 1968. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitation. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Records of discharge are given for 04-1990.00 Huron River at Milan, Ohio (drainage area 371 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.						
11...	5.5	2.5	564	390	185	874
30...	3.4	2.5	632	446	196	940
NOV.						
19...	20	.41	446	318	200	659
27...	5.2	.92	536	396	218	787
DEC.						
19...	4.1	.86	594	436	227	865
28...	11	.32	192	129	76	300
JAN.						
08...	15	.51	530	374	200	774
18...	12	.15	220	132	72	326
FEB.						
01...	24	.46	258	176	102	403
20...	10	1.1	538	392	195	825
MAR.						
18...	12	.85	540	386	197	796
28...	20	.22	404	272	162	616
APR.						
15...	9.7	.83	436	324	165	688
19...	19	.42	176	102	46	281
MAY						
07...	5.2	.86	424	284	159	617
22...	16	.35	342	240	124	496
JUNE						
18...	29	.48	374	282	151	604
25...	14	.82	444	352	177	730
JULY						
01...	5.1	1.1	458	308	154	714
20...	9.8	.34	212	160	72	350
AUG.						
02...	4.7	.69	396	300	131	614
17...	27	1.3	496	388	184	778
SEPT.						
27...	14	.50	382	272	146	596

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	640	600	610	590	---	---	---	---	---	---	---	---
2	670	610	600	550	---	---	---	---	---	---	---	---
3	650	570	590	540	---	---	---	---	---	---	---	---
4	580	540	570	540	---	---	---	---	---	---	---	---
5	590	340	---	---	---	---	---	---	---	---	---	---
6	380	270	---	---	---	---	---	---	---	---	---	---
7	490	380	---	---	---	---	---	---	---	---	---	---
8	530	480	---	---	---	---	---	---	---	---	---	---
9	590	530	---	---	---	---	---	---	---	---	---	---
10	620	570	---	---	---	---	---	---	---	---	---	---
11	630	590	---	---	---	---	---	---	---	---	---	---
12	650	610	---	---	---	---	---	---	---	---	---	---
13	650	630	---	---	---	---	---	---	---	---	---	---
14	670	650	---	---	---	---	---	---	---	---	---	---
15	690	650	---	---	---	---	---	---	---	---	---	---
16	670	650	---	---	---	---	---	---	---	---	---	---
17	650	620	---	---	---	---	---	---	---	---	---	---
18	660	340	---	---	---	---	---	---	---	---	---	---
19	350	250	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	420	370	---	---	---	---	---	---	---	---	---	---
25	480	410	---	---	---	---	---	---	---	---	---	---
26	570	480	---	---	---	---	---	---	---	---	---	---
27	570	550	---	---	---	---	---	---	---	---	---	---
28	610	570	---	---	---	---	---	---	---	---	---	---
29	620	550	---	---	---	---	---	---	---	---	---	---
30	610	580	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1991. HURON RIVER BELOW MILAN, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.2	8.0	8.1	8.0	8.0	7.8	---	---	---	---	8.5	7.8
2	8.2	8.1	8.3	8.1	7.9	7.8	---	---	---	---	8.4	7.9
3	8.1	8.0	8.2	7.8	7.8	7.6	---	---	---	---	8.4	7.6
4	8.3	8.1	8.1	7.8	7.8	7.5	---	---	---	---	8.4	7.5
5	8.3	8.2	---	---	8.0	7.6	---	---	7.7	7.5	8.5	7.7
6	8.3	8.2	---	---	8.5	7.9	---	---	8.2	7.7	8.5	8.3
7	8.3	8.2	---	---	8.2	8.1	---	---	---	---	8.4	8.2
8	8.5	8.0	---	---	8.2	8.1	---	---	---	---	8.5	8.3
9	8.3	8.1	---	---	8.3	8.1	---	---	---	---	8.5	8.4
10	8.3	8.0	---	---	8.2	8.1	---	---	---	---	8.7	8.3
11	8.4	8.1	---	---	8.2	8.1	---	---	---	---	8.5	8.2
12	8.5	8.3	---	---	8.2	8.1	---	---	---	---	8.5	8.1
13	8.5	8.3	---	---	8.2	7.9	---	---	---	---	---	---
14	8.4	8.3	---	---	8.1	7.5	---	---	---	---	---	---
15	8.4	8.3	---	---	8.2	8.0	---	---	---	---	---	---
16	8.4	8.3	---	---	8.2	8.1	---	---	---	---	---	---
17	8.4	8.2	---	---	8.1	7.9	---	---	---	---	---	---
18	8.3	8.1	---	---	8.1	7.8	---	---	---	---	---	---
19	8.1	8.0	---	---	8.1	7.8	---	---	7.9	7.8	---	---
20	8.1	8.0	---	---	8.1	7.8	---	---	8.2	7.9	---	---
21	8.1	7.9	---	---	8.0	6.8	---	---	8.3	8.2	---	---
22	8.5	7.9	8.2	7.9	8.1	7.1	---	---	8.3	8.2	---	---
23	8.6	7.9	8.1	7.6	8.0	7.9	---	---	8.4	8.0	---	---
24	8.2	8.0	7.9	7.5	8.0	7.8	---	---	8.2	8.1	---	---
25	8.2	8.0	8.0	7.4	8.0	7.1	---	---	8.3	8.0	---	---
26	8.4	8.0	8.1	7.9	7.8	6.6	---	---	8.4	8.1	8.4	8.0
27	8.5	7.8	7.9	7.8	8.0	6.8	---	---	8.4	8.2	8.5	8.3
28	8.2	7.7	8.0	7.7	8.0	6.9	---	---	8.4	7.5	8.4	8.3
29	8.0	7.8	7.7	7.4	---	---	---	---	---	---	8.6	8.2
30	8.0	7.8	7.8	7.5	---	---	---	---	---	---	8.8	8.6
31	8.1	7.9	---	---	---	---	---	---	---	---	8.9	8.6

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.7	8.4	8.4	8.1	---	---	---	---	---	---	---	---
2	8.6	8.2	8.4	8.1	---	---	---	---	---	---	---	---
3	8.6	8.2	8.4	8.0	---	---	---	---	---	---	---	---
4	8.2	8.0	8.6	8.2	---	---	---	---	---	---	---	---
5	8.2	7.7	---	---	---	---	---	---	---	---	---	---
6	7.9	7.6	---	---	---	---	---	---	---	---	---	---
7	7.9	7.6	---	---	---	---	---	---	---	---	---	---
8	7.9	7.7	---	---	---	---	---	---	---	---	---	---
9	7.8	7.7	---	---	---	---	---	---	---	---	---	---
10	7.9	7.8	---	---	---	---	---	---	---	---	---	---
11	8.1	7.9	---	---	---	---	---	---	---	---	---	---
12	8.1	8.0	---	---	---	---	---	---	---	---	---	---
13	8.1	7.9	---	---	---	---	---	---	---	---	---	---
14	8.2	8.0	---	---	---	---	---	---	---	---	---	---
15	8.1	7.9	---	---	---	---	---	---	---	---	---	---
16	8.2	7.7	---	---	---	---	---	---	---	---	---	---
17	8.3	7.9	---	---	---	---	---	---	---	---	---	---
18	8.3	7.6	---	---	---	---	---	---	---	---	---	---
19	7.7	7.5	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	8.0	7.8	---	---	---	---	---	---	---	---	---	---
25	8.0	7.8	---	---	---	---	---	---	---	---	---	---
26	7.9	7.7	---	---	---	---	---	---	---	---	---	---
27	7.9	7.7	---	---	---	---	---	---	---	---	---	---
28	8.1	7.8	---	---	---	---	---	---	---	---	---	---
29	8.2	8.0	---	---	---	---	---	---	---	---	---	---
30	8.4	8.2	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1991. HURON RIVER BELOW MILAN, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.1	7.0	15.0	15.0	---	---	---	---	---	---	---	---
2	7.8	6.5	15.0	15.0	---	---	---	---	---	---	---	---
3	7.4	6.5	15.0	15.0	---	---	---	---	---	---	---	---
4	9.4	7.1	15.0	15.0	---	---	---	---	---	---	---	---
5	8.8	8.0	---	---	---	---	---	---	---	---	---	---
6	8.5	7.5	---	---	---	---	---	---	---	---	---	---
7	8.7	7.7	---	---	---	---	---	---	---	---	---	---
8	10.4	8.4	---	---	---	---	---	---	---	---	---	---
9	10.1	9.0	---	---	---	---	---	---	---	---	---	---
10	10.6	9.0	---	---	---	---	---	---	---	---	---	---
11	10.6	9.4	---	---	---	---	---	---	---	---	---	---
12	9.7	9.4	---	---	---	---	---	---	---	---	---	---
13	9.4	8.9	---	---	---	---	---	---	---	---	---	---
14	9.2	8.8	---	---	---	---	---	---	---	---	---	---
15	9.0	8.0	---	---	---	---	---	---	---	---	---	---
16	8.0	7.4	---	---	---	---	---	---	---	---	---	---
17	7.4	6.9	---	---	---	---	---	---	---	---	---	---
18	6.9	6.2	---	---	---	---	---	---	---	---	---	---
19	6.3	5.8	---	---	---	---	---	---	---	---	---	---
20	6.1	5.8	---	---	---	---	---	---	---	---	---	---
21	6.3	5.6	---	---	---	---	---	---	---	---	---	---
22	6.8	5.7	---	---	---	---	---	---	---	---	---	---
23	12.4	6.3	---	---	---	---	---	---	---	---	---	---
24	7.0	6.6	---	---	---	---	---	---	---	---	---	---
25	15.0	7.0	---	---	---	---	---	---	---	---	---	---
26	10.3	7.3	---	---	---	---	---	---	---	---	---	---
27	13.6	7.1	---	---	---	---	---	---	---	---	---	---
28	12.7	6.8	---	---	---	---	---	---	---	---	---	---
29	14.0	9.7	---	---	---	---	---	---	---	---	---	---
30	15.0	11.8	---	---	---	---	---	---	---	---	---	---
31	15.0	12.4	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1991. HURON RIVER BELOW MILAN, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	18.0	11.0	7.0	6.0	4.0	---	---	---	---	2.0	1.0
2	20.0	19.0	12.0	9.0	6.0	5.0	---	---	---	---	3.0	1.0
3	19.0	18.0	13.0	11.0	7.0	6.0	---	---	---	---	3.0	1.0
4	18.0	16.0	12.0	9.0	7.0	6.0	---	---	---	---	3.0	1.0
5	16.0	15.0	---	---	6.0	3.0	---	---	---	---	3.0	1.0
6	15.0	14.0	---	---	3.0	2.0	---	---	---	0.0	3.0	2.0
7	15.0	14.0	---	---	2.0	1.0	---	---	---	0.0	3.0	2.0
8	15.0	13.0	---	---	1.0	1.0	---	---	---	---	3.0	2.0
9	15.0	13.0	---	---	1.0	1.0	---	---	---	---	3.0	2.0
10	16.0	14.0	---	---	1.0	1.0	---	---	---	---	2.0	1.0
11	16.0	14.0	---	---	1.0	1.0	---	---	---	---	2.0	0.0
12	17.0	14.0	---	---	1.0	1.0	---	---	---	---	1.0	0.0
13	17.0	15.0	---	---	3.0	1.0	---	---	---	---	---	---
14	18.0	16.0	---	---	4.0	2.0	---	---	---	---	---	---
15	19.0	16.0	---	---	2.0	1.0	---	---	---	---	---	---
16	19.0	17.0	---	---	1.0	1.0	---	---	---	---	---	---
17	20.0	18.0	---	---	1.0	1.0	---	---	---	---	---	---
18	20.0	19.0	---	---	1.0	1.0	---	---	---	---	---	---
19	19.0	18.0	---	---	1.0	0.0	---	---	0.0	0.0	---	---
20	18.0	17.0	---	---	1.0	0.0	---	---	0.0	0.0	---	---
21	18.0	16.0	---	---	0.0	0.0	---	---	0.0	0.0	---	---
22	16.0	14.0	5.0	4.0	1.0	0.0	---	---	1.0	0.0	---	---
23	14.0	13.0	7.0	4.0	0.0	0.0	---	---	2.0	0.0	---	---
24	13.0	12.0	8.0	7.0	0.0	0.0	---	---	3.0	1.0	---	---
25	12.0	11.0	8.0	6.0	0.0	0.0	---	---	3.0	2.0	---	---
26	11.0	10.0	6.0	5.0	0.0	0.0	0.0	---	2.0	2.0	4.0	4.0
27	11.0	9.0	7.0	6.0	0.0	0.0	0.0	---	2.0	1.0	6.0	3.0
28	9.0	8.0	8.0	6.0	1.0	0.0	---	---	2.0	1.0	6.0	4.0
29	8.0	8.0	9.0	8.0	---	---	---	---	---	---	6.0	5.0
30	8.0	7.0	8.0	6.0	---	---	---	---	---	---	5.0	2.0
31	8.0	7.0	---	---	---	---	---	---	---	---	3.0	0.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	14.0	12.0	---	---	---	---	---	---	---	---
2	6.0	4.0	16.0	14.0	---	---	---	---	---	---	---	---
3	8.0	4.0	18.0	16.0	---	---	---	---	---	---	---	---
4	11.0	6.0	20.0	18.0	---	---	---	---	---	---	---	---
5	11.0	10.0	---	---	---	---	---	---	---	---	---	---
6	10.0	9.0	---	---	---	---	---	---	---	---	---	---
7	11.0	7.0	---	---	---	---	---	---	---	---	---	---
8	13.0	9.0	---	---	---	---	---	---	---	---	---	---
9	14.0	11.0	---	---	---	---	---	---	---	---	---	---
10	14.0	13.0	---	---	---	---	---	---	---	---	---	---
11	13.0	11.0	---	---	---	---	---	---	---	---	---	---
12	13.0	10.0	---	---	---	---	---	---	---	---	---	---
13	13.0	10.0	---	---	---	---	---	---	---	---	---	---
14	13.0	11.0	---	---	---	---	---	---	---	---	---	---
15	15.0	12.0	---	---	---	---	---	---	---	---	---	---
16	17.0	14.0	---	---	---	---	---	---	---	---	---	---
17	19.0	17.0	---	---	---	---	---	---	---	---	---	---
18	20.0	10.0	---	---	---	---	---	---	---	---	---	---
19	10.0	7.0	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	10.0	9.0	---	---	---	---	---	---	---	---	---	---
25	13.0	9.0	---	---	---	---	---	---	---	---	---	---
26	16.0	11.0	---	---	---	---	---	---	---	---	---	---
27	19.0	14.0	---	---	---	---	---	---	---	---	---	---
28	19.0	16.0	---	---	---	---	---	---	---	---	---	---
29	16.0	11.0	---	---	---	---	---	---	---	---	---	---
30	15.0	14.0	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-1995. VERMILION RIVER NEAR VERMILION, OHIO

LOCATION.--Lat 41°22'55", long 82°19'00", in T. 6N., R. 19W., Lorain County, at gaging station at bridge on North Ridge Road, 3.5 miles southeast of Vermilion, Erie County, and 4.5 miles upstream from mouth.
DRAINAGE AREA.--262 sq mi.
PERIOD OF RECORD.--Chemical analyses: February to September 1969.
Water temperatures: February to September 1969.
REMARKS.--Continuous water quality recorder operated since February 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, FEBRUARY TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
FEB.							
27...	1445	159	170	6	122	30	.3
MAR.							
27...	0900	550	144	2	121	36	.3
APR.							
15...	1400	123	148	0	109	19	.2
23...	1700	1660	92	0	64	10	.2
JULY							
02...	1730	20	148	0	88	27	.4
07...	1745	2140	70	0	35	6.6	.4
SEPT.							
08...	1415	31	182	0	121	26	.3

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
FEB.						
27...	4.8	422	285	135	608	8.5
MAR.						
27...	7.5	416	258	136	606	8.4
APR.						
15...	4.4	310	240	119	524	7.8
23...	12	200	148	72	344	6.9
JULY						
02...	15	334	236	115	527	7.2
07...	10	160	98	40	219	7.3
SEPT.						
08...	1.2	390	279	130	609	7.5

4-1995. VERMILION RIVER NEAR VERMILION, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), FEBRUARY TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	600	590
2	---	---	---	---	---	---	---	---	---	---	610	600
3	---	---	---	---	---	---	---	---	---	---	610	600
4	---	---	---	---	---	---	---	---	---	---	600	590
5	---	---	---	---	---	---	---	---	---	---	610	590
6	---	---	---	---	---	---	---	---	---	---	610	590
7	---	---	---	---	---	---	---	---	---	---	620	600
8	---	---	---	---	---	---	---	---	---	---	610	600
9	---	---	---	---	---	---	---	---	---	---	600	600
10	---	---	---	---	---	---	---	---	---	---	910	590
11	---	---	---	---	---	---	---	---	---	---	630	580
12	---	---	---	---	---	---	---	---	---	---	620	600
13	---	---	---	---	---	---	---	---	---	---	620	600
14	---	---	---	---	---	---	---	---	---	---	610	590
15	---	---	---	---	---	---	---	---	---	---	610	600
16	---	---	---	---	---	---	---	---	---	---	620	600
17	---	---	---	---	---	---	---	---	---	---	620	610
18	---	---	---	---	---	---	---	---	---	---	620	610
19	---	---	---	---	---	---	---	---	---	---	630	610
20	---	---	---	---	---	---	---	---	---	---	690	620
21	---	---	---	---	---	---	---	---	---	---	670	620
22	---	---	---	---	---	---	---	---	---	---	650	640
23	---	---	---	---	---	---	---	---	---	---	640	640
24	---	---	---	---	---	---	---	---	---	---	740	640
25	---	---	---	---	---	---	---	---	---	---	730	660
26	---	---	---	---	---	---	---	---	---	---	840	640
27	---	---	---	---	---	---	---	---	610	600	640	600
28	---	---	---	---	---	---	---	---	600	560	620	580
29	---	---	---	---	---	---	---	---	---	---	590	560
30	---	---	---	---	---	---	---	---	---	---	560	530
31	---	---	---	---	---	---	---	---	---	---	530	520

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	540	520	500	480	---	---	---	---	---	---	---	---
2	560	520	510	500	---	---	---	---	---	---	---	---
3	530	500	530	510	---	---	---	---	---	---	610	610
4	500	490	540	520	---	---	---	---	---	---	620	600
5	510	330	540	520	---	---	---	---	---	---	610	600
6	330	270	550	540	---	---	---	---	---	---	600	570
7	340	290	560	550	---	---	---	---	---	---	610	580
8	340	300	580	550	---	---	---	---	---	---	620	600
9	360	340	570	310	---	---	---	---	---	---	600	600
10	440	360	430	370	---	---	---	---	---	---	610	590
11	470	440	440	400	---	---	---	---	---	---	620	590
12	490	470	430	420	---	---	---	---	---	---	620	600
13	500	490	460	---	---	---	---	---	---	---	620	590
14	520	500	---	---	---	---	---	---	---	---	600	590
15	520	510	---	---	---	---	---	---	---	---	600	590
16	530	520	---	---	---	---	---	---	---	---	610	600
17	530	520	---	---	---	---	---	---	---	---	610	530
18	540	320	---	---	---	---	---	---	---	---	650	600
19	320	180	---	---	---	---	---	---	---	---	600	540
20	250	190	---	---	---	---	---	---	---	---	580	540
21	320	250	---	---	---	---	---	---	---	---	610	580
22	350	320	---	---	---	---	---	---	---	---	610	570
23	340	330	400	380	---	---	---	---	---	---	590	560
24	330	290	390	380	---	---	---	---	---	---	580	560
25	350	310	390	380	---	---	---	---	---	---	---	---
26	390	210	400	380	---	---	---	---	---	---	---	---
27	430	210	410	380	---	---	---	---	---	---	---	---
28	450	430	430	400	---	---	---	---	---	---	---	---
29	470	450	550	420	---	---	---	---	---	---	---	---
30	480	470	590	540	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

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4-1995. VERMILION RIVER NEAR VERMILION, OHIO--Continued

TEMPERATURE (°C) OF WATER, FEBRUARY TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	--	--	--	--	--	--	--	--	3.0	0.0
2	--	--	--	--	--	--	--	--	--	--	2.0	1.0
3	--	--	--	--	--	--	--	--	--	--	3.0	0.0
4	--	--	--	--	--	--	--	--	--	--	2.0	0.0
5	--	--	--	--	--	--	--	--	--	--	3.0	0.0
6	--	--	--	--	--	--	--	--	--	--	4.0	0.0
7	--	--	--	--	--	--	--	--	--	--	5.0	1.0
8	--	--	--	--	--	--	--	--	--	--	4.0	2.0
9	--	--	--	--	--	--	--	--	--	--	2.0	1.0
10	--	--	--	--	--	--	--	--	--	--	2.0	0.0
11	--	--	--	--	--	--	--	--	--	--	0.0	0.0
12	--	--	--	--	--	--	--	--	--	--	2.0	0.0
13	--	--	--	--	--	--	--	--	--	--	4.0	0.0
14	--	--	--	--	--	--	--	--	--	--	3.0	0.0
15	--	--	--	--	--	--	--	--	--	--	5.0	0.0
16	--	--	--	--	--	--	--	--	--	--	6.0	0.0
17	--	--	--	--	--	--	--	--	--	--	9.0	2.0
18	--	--	--	--	--	--	--	--	--	--	11.0	5.0
19	--	--	--	--	--	--	--	--	--	--	12.0	7.0
20	--	--	--	--	--	--	--	--	--	--	11.0	8.0
21	--	--	--	--	--	--	--	--	--	--	9.0	5.0
22	--	--	--	--	--	--	--	--	--	--	8.0	4.0
23	--	--	--	--	--	--	--	--	--	--	9.0	5.0
24	--	--	--	--	--	--	--	--	--	--	8.0	8.0
25	--	--	--	--	--	--	--	--	--	--	8.0	5.0
26	--	--	--	--	--	--	--	--	--	--	5.0	4.0
27	--	--	--	--	--	--	--	--	3.0	1.0	6.0	3.0
28	--	--	--	--	--	--	--	--	2.0	0.0	7.0	3.0
29	--	--	--	--	--	--	--	--	--	--	6.0	4.0
30	--	--	--	--	--	--	--	--	--	--	4.0	2.0
31	--	--	--	--	--	--	--	--	--	--	5.0	1.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.0	2.0	14.0	10.0	--	--	--	--	--	--	--	--
2	6.0	5.0	17.0	12.0	--	--	--	--	--	--	--	--
3	8.0	4.0	20.0	15.0	--	--	--	--	--	--	26.0	25.0
4	10.0	5.0	20.0	16.0	--	--	--	--	--	--	26.0	22.0
5	10.0	10.0	21.0	16.0	--	--	--	--	--	--	26.0	22.0
6	10.0	9.0	21.0	17.0	--	--	--	--	--	--	27.0	22.0
7	11.0	8.0	22.0	19.0	--	--	--	--	--	--	25.0	22.0
8	13.0	9.0	22.0	19.0	--	--	--	--	--	--	25.0	21.0
9	14.0	11.0	19.0	15.0	--	--	--	--	--	--	21.0	19.0
10	14.0	12.0	15.0	12.0	--	--	--	--	--	--	21.0	17.0
11	13.0	10.0	12.0	11.0	--	--	--	--	--	--	20.0	16.0
12	13.0	9.0	13.0	11.0	--	--	--	--	--	--	22.0	16.0
13	13.0	10.0	16.0	11.0	--	--	--	--	--	--	23.0	17.0
14	15.0	11.0	16.0	13.0	--	--	--	--	--	--	23.0	18.0
15	16.0	13.0	--	--	--	--	--	--	--	--	24.0	18.0
16	18.0	13.0	--	--	--	--	--	--	--	--	22.0	20.0
17	20.0	14.0	--	--	--	--	--	--	--	--	21.0	18.0
18	17.0	9.0	--	--	--	--	--	--	--	--	18.0	16.0
19	9.0	5.0	--	--	--	--	--	--	--	--	18.0	16.0
20	7.0	5.0	--	--	--	--	--	--	--	--	17.0	16.0
21	9.0	7.0	--	--	--	--	--	--	--	--	19.0	16.0
22	9.0	8.0	--	--	--	--	--	--	--	--	21.0	16.0
23	8.0	7.0	--	--	--	--	--	--	--	--	21.0	17.0
24	9.0	6.0	--	--	--	--	--	--	--	--	20.0	17.0
25	12.0	8.0	--	--	--	--	--	--	--	--	--	--
26	15.0	10.0	--	--	--	--	--	--	--	--	--	--
27	17.0	12.0	--	--	--	--	--	--	--	--	--	--
28	16.0	14.0	--	--	--	--	--	--	--	--	--	--
29	14.0	11.0	--	--	--	--	--	--	--	--	--	--
30	14.0	10.0	--	--	--	--	--	--	--	--	--	--
31	--	--	--	--	--	--	--	--	--	--	--	--

4-1999. EAST BRANCH BLACK RIVER AT GRAFTON, OHIO

LOCATION.--Lat 41°15'51", long 82°03'39", in T.4 N., R.16 W., Lorain County, on right downstream abutment of bridge on Crook Street at south edge of Grafton, 14 miles upstream from West Branch Black River.
DRAINAGE AREA.--170 sq mi.
PERIOD OF RECORD.--Chemical analyses: April to September 1969.
Water temperatures: April to September 1969.
REMARKS.--Continuous water quality recorder operated since April 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected June to September. No discharge records available.

CHEMICAL ANALYSES, APRIL TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
JUNE												
02...	1600	180	6	124	38	.1	3.1	452	306	148	654	8.3
30...	2030	218	0	145	66	.2	3.8	556	344	165	821	7.4
JULY												
02...	1630	228	0	144	67	.3	6.6	524	340	153	829	8.2
07...	1410	54	0	27	6.7	.3	12	110	75	31	187	6.8
AUG.												
01...	1500	192	0	115	37	.4	4.4	458	288	130	646	7.2
27...	1645	250	0	220	66	.4	2.8	702	460	255	980	8.2
SEPT.												
15...	1830	246	0	182	84	.3	1.6	620	413	211	991	7.5
29...	1005	210	4	172	56	.3	1.2	530	364	185	833	8.3

4-1999. EAST BRANCH BLACK RIVER AT GRAFTON, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), APRIL TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	630	570	680	640	830	810	670	630	---	---
2	---	---	640	590	640	610	860	760	810	670	---	---
3	---	---	650	590	620	610	880	860	880	810	---	---
4	---	---	650	610	670	620	---	---	---	---	---	---
5	---	---	670	620	680	610	---	---	---	---	---	---
6	---	---	680	630	710	650	---	---	---	---	---	---
7	---	---	680	620	720	680	---	---	---	---	---	---
8	---	---	630	370	740	690	380	270	---	---	---	---
9	---	---	510	360	780	700	400	380	---	---	---	---
10	580	550	500	410	790	730	390	350	---	---	---	---
11	570	530	490	360	810	740	390	350	---	---	---	---
12	600	570	450	390	810	800	400	180	---	---	---	---
13	570	540	450	400	810	800	390	170	---	---	---	---
14	600	560	490	420	810	790	350	270	---	---	---	---
15	630	600	530	470	790	740	420	330	---	---	---	---
16	650	600	570	510	800	720	490	360	---	---	---	---
17	670	620	590	540	830	760	520	440	---	---	---	---
18	670	400	580	230	840	800	540	440	---	---	---	---
19	400	300	230	210	840	810	570	440	---	---	---	---
20	300	240	260	220	810	800	540	250	---	---	---	---
21	390	300	400	260	810	760	400	250	---	---	---	---
22	420	390	460	400	800	740	500	340	---	---	---	---
23	450	370	510	460	800	780	560	390	---	---	920	900
24	370	330	540	480	780	770	580	440	---	---	910	850
25	390	320	590	540	780	770	470	410	---	---	880	850
26	460	390	610	560	780	770	610	440	---	---	870	830
27	510	450	630	580	810	780	490	400	---	---	850	810
28	550	490	650	590	830	810	520	420	---	---	840	820
29	570	540	660	610	830	820	590	450	---	---	840	820
30	590	530	660	620	840	810	700	520	---	---	840	810
31	---	---	680	630	---	---	630	570	---	---	---	---

TEMPERATURE (°C) OF WATER, APRIL TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	14.0	10.0	27.0	22.0	28.0	26.0	26.0	23.0	---	---
2	---	---	16.0	11.0	24.0	20.0	28.0	24.0	25.0	23.0	---	---
3	---	---	19.0	13.0	20.0	17.0	26.0	24.0	25.0	22.0	---	---
4	---	---	20.0	15.0	22.0	16.0	---	---	---	---	---	---
5	---	---	21.0	16.0	22.0	18.0	---	---	---	---	---	---
6	---	---	21.0	16.0	22.0	18.0	---	---	---	---	---	---
7	---	---	21.0	18.0	22.0	19.0	---	---	---	---	---	---
8	---	---	21.0	17.0	21.0	18.0	20.0	20.0	---	---	---	---
9	---	---	17.0	14.0	22.0	17.0	21.0	20.0	---	---	---	---
10	14.0	13.0	14.0	12.0	23.0	18.0	24.0	21.0	---	---	---	---
11	13.0	12.0	12.0	10.0	24.0	19.0	26.0	22.0	---	---	---	---
12	12.0	11.0	12.0	10.0	27.0	23.0	25.0	22.0	---	---	---	---
13	13.0	11.0	14.0	10.0	27.0	24.0	24.0	21.0	---	---	---	---
14	13.0	11.0	16.0	12.0	25.0	23.0	24.0	22.0	---	---	---	---
15	14.0	12.0	18.0	13.0	23.0	18.0	25.0	22.0	---	---	---	---
16	17.0	13.0	19.0	15.0	22.0	17.0	26.0	24.0	---	---	---	---
17	18.0	15.0	19.0	17.0	23.0	18.0	26.0	25.0	---	---	---	---
18	17.0	10.0	18.0	15.0	23.0	21.0	27.0	25.0	---	---	---	---
19	10.0	7.0	17.0	16.0	23.0	20.0	26.0	25.0	---	---	---	---
20	8.0	6.0	18.0	16.0	22.0	20.0	25.0	23.0	---	---	---	---
21	9.0	7.0	20.0	15.0	23.0	18.0	25.0	23.0	---	---	---	---
22	9.0	8.0	20.0	17.0	23.0	20.0	25.0	23.0	---	---	---	---
23	9.0	7.0	17.0	16.0	24.0	22.0	26.0	24.0	---	---	17.0	17.0
24	8.0	5.0	19.0	16.0	24.0	22.0	26.0	24.0	---	---	18.0	17.0
25	11.0	7.0	20.0	16.0	25.0	22.0	27.0	24.0	---	---	17.0	16.0
26	13.0	10.0	20.0	15.0	28.0	17.0	26.0	24.0	---	---	16.0	16.0
27	16.0	12.0	20.0	15.0	30.0	27.0	25.0	24.0	---	---	16.0	16.0
28	16.0	14.0	23.0	18.0	30.0	28.0	25.0	24.0	---	---	16.0	14.0
29	15.0	12.0	25.0	20.0	29.0	27.0	24.0	23.0	---	---	15.0	14.0
30	13.0	10.0	22.0	18.0	29.0	27.0	24.0	22.0	---	---	16.0	14.0
31	---	---	26.0	20.0	---	---	25.0	22.0	---	---	---	---

4-2004. WEST BRANCH BLACK RIVER NEAR ELYRIA, OHIO

LOCATION.--Lat 41°20'10", long 82°07'15", Lorain County, on right abutment of private dam, 200 ft upstream from bridge on U.S. Highway 20, 4 miles upstream from confluence with East Branch, and 1.8 miles south from center of Elyria.
DRAINAGE AREA.--170 sq mi.
PERIOD OF RECORD.--Chemical analyses: March to September 1969.
Water temperatures: March to September 1969.
EXTREMES, March to September 1969.--Specific conductance: Maximum, 825 micromhos Mar. 22, 25; minimum, 200 micromhos May 19, 20.
Water temperatures: Maximum, 27°C July 17-20, 23, 24, 27, Aug. 3; minimum, not determined.
REMARKS.--Continuous water quality recorder operated since March 1969. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, MARCH TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
MAR.											
21...	1300	188	0	187	42	.3	6.3	532	338	184	802
27...	1150	124	0	143	44	.2	10	448	264	162	657
APR.											
06...	1400	66	0	58	10	.2	8.4	206	127	73	286
17...	1500	164	8	148	30	.3	2.4	432	314	166	645
MAY											
21...	1300	114	0	51	10	.3	8.4	228	155	61	327
JUNE											
01...	1530	192	0	116	26	.5	13	372	270	112	614
27...	1800	228	0	140	37	.4	11	456	324	137	735
JULY											
16...	1515	180	0	90	16	.4	9.3	312	240	92	502
18...	1730	84	0	52	15	.4	13	176	126	57	317
AUG.											
07...	1820	208	0	107	25	.4	3.6	426	280	109	622
24...	1700	206	0	103	36	.7	11	440	258	88	662
SEPT.											
04...	1700	202	0	99	34	.5	7.3	402	276	110	636
08...	--	210	0	94	33	.5	4.3	380	254	82	613

4-2004. WEST BRANCH BLACK RIVER NEAR ELYRIA, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), MARCH TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	805	779
22	---	---	---	---	---	---	---	---	---	---	825	790
23	---	---	---	---	---	---	---	---	---	---	813	790
24	---	---	---	---	---	---	---	---	---	---	818	803
25	---	---	---	---	---	---	---	---	---	---	825	690
26	---	---	---	---	---	---	---	---	---	---	694	667
27	---	---	---	---	---	---	---	---	---	---	689	658
28	---	---	---	---	---	---	---	---	---	---	669	632
29	---	---	---	---	---	---	---	---	---	---	659	609
30	---	---	---	---	---	---	---	---	---	---	647	615
31	---	---	---	---	---	---	---	---	---	---	627	611

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	620	610	570	560	610	580	660	440	610	520	700	630
2	630	590	570	560	620	520	440	410	560	540	650	610
3	620	580	580	570	540	460	---	---	570	560	650	630
4	600	570	600	580	590	470	---	---	600	560	660	600
5	570	320	630	600	670	560	---	---	610	600	690	660
6	320	290	630	620	670	600	---	---	640	610	730	690
7	420	320	640	630	640	620	---	---	680	610	770	710
8	470	420	650	500	640	620	---	---	650	600	710	610
9	510	470	590	300	660	630	---	---	600	590	620	620
10	530	510	370	340	660	660	---	---	620	600	630	---
11	560	530	380	340	670	660	---	---	660	610	620	---
12	580	560	390	360	680	670	---	---	670	610	630	620
13	610	580	430	380	680	670	---	---	640	610	640	630
14	620	610	470	430	690	670	---	---	660	620	640	630
15	630	620	500	470	690	630	---	---	680	600	650	640
16	640	630	530	500	690	630	520	500	660	570	650	640
17	660	640	550	530	700	670	520	270	590	550	650	600
18	660	390	550	270	690	670	340	270	560	530	680	510
19	390	240	270	200	680	670	360	340	570	540	530	440
20	300	240	260	200	680	680	440	360	600	560	620	530
21	380	300	350	260	700	690	570	270	620	580	660	620
22	400	380	390	350	710	700	330	300	660	600	690	660
23	420	390	440	390	720	700	360	330	620	580	700	670
24	390	350	480	440	730	720	390	360	670	620	690	670
25	410	360	500	480	740	720	440	320	770	630	670	650
26	470	410	530	500	750	730	420	360	750	730	700	670
27	490	440	540	530	740	720	470	400	730	650	700	640
28	500	480	570	540	730	690	470	440	690	670	680	670
29	530	500	580	530	740	700	450	410	690	640	680	650
30	560	530	580	360	710	420	510	450	720	670	650	620
31	---	---	580	460	---	---	520	490	700	680	---	---

4-2004. WEST BRANCH BLACK RIVER NEAR ELYRIA, OHIO--Continued

TEMPERATURE (°C) OF WATER, MARCH TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	--	--	--	--	--	--	--	--	--	--	--	--
2	--	--	--	--	--	--	--	--	--	--	--	--
3	--	--	--	--	--	--	--	--	--	--	--	--
4	--	--	--	--	--	--	--	--	--	--	--	--
5	--	--	--	--	--	--	--	--	--	--	--	--
6	--	--	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--	--	--	--
11	--	--	--	--	--	--	--	--	--	--	--	--
12	--	--	--	--	--	--	--	--	--	--	--	--
13	--	--	--	--	--	--	--	--	--	--	--	--
14	--	--	--	--	--	--	--	--	--	--	--	--
15	--	--	--	--	--	--	--	--	--	--	--	--
16	--	--	--	--	--	--	--	--	--	--	--	--
17	--	--	--	--	--	--	--	--	--	--	--	--
18	--	--	--	--	--	--	--	--	--	--	--	--
19	--	--	--	--	--	--	--	--	--	--	--	--
20	--	--	--	--	--	--	--	--	--	--	--	--
21	--	--	--	--	--	--	--	--	--	--	8.0	7.5
22	--	--	--	--	--	--	--	--	--	--	8.0	7.0
23	--	--	--	--	--	--	--	--	--	--	8.0	7.0
24	--	--	--	--	--	--	--	--	--	--	8.0	7.5
25	--	--	--	--	--	--	--	--	--	--	8.0	6.5
26	--	--	--	--	--	--	--	--	--	--	6.5	5.0
27	--	--	--	--	--	--	--	--	--	--	5.0	4.0
28	--	--	--	--	--	--	--	--	--	--	6.0	4.5
29	--	--	--	--	--	--	--	--	--	--	6.0	5.5
30	--	--	--	--	--	--	--	--	--	--	5.5	3.5
31	--	--	--	--	--	--	--	--	--	--	3.5	2.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	13.0	12.0	21.0	20.0	24.0	22.0	25.0	24.0	23.0	22.0
2	6.0	4.0	14.0	12.0	21.0	18.0	22.0	21.0	25.0	24.0	23.0	23.0
3	7.0	6.0	16.0	14.0	18.0	16.0	--	--	27.0	24.0	23.0	23.0
4	8.0	7.0	17.0	16.0	17.0	16.0	--	--	25.0	24.0	23.0	22.0
5	11.0	8.0	18.0	17.0	17.0	16.0	--	--	25.0	24.0	22.0	22.0
6	11.0	10.0	18.0	18.0	17.0	16.0	--	--	26.0	24.0	22.0	22.0
7	10.0	9.0	19.0	18.0	18.0	17.0	--	--	26.0	24.0	22.0	22.0
8	11.0	9.0	20.0	18.0	18.0	18.0	--	--	26.0	24.0	22.0	22.0
9	13.0	11.0	18.0	15.0	18.0	17.0	--	--	26.0	24.0	22.0	21.0
10	13.0	13.0	15.0	13.0	18.0	17.0	--	--	24.0	24.0	21.0	20.0
11	13.0	12.0	13.0	11.0	19.0	17.0	--	--	26.0	24.0	20.0	19.0
12	12.0	11.0	12.0	11.0	20.0	18.0	--	--	24.0	23.0	20.0	19.0
13	12.0	11.0	14.0	12.0	20.0	19.0	--	--	24.0	23.0	19.0	19.0
14	13.0	11.0	15.0	14.0	20.0	19.0	--	--	24.0	23.0	21.0	19.0
15	14.0	13.0	16.0	15.0	19.0	17.0	--	--	24.0	24.0	21.0	19.0
16	15.0	14.0	17.0	16.0	17.0	16.0	25.0	21.0	24.0	24.0	21.0	20.0
17	16.0	15.0	18.0	17.0	17.0	17.0	27.0	25.0	25.0	24.0	20.0	18.0
18	17.0	11.0	18.0	17.0	18.0	17.0	27.0	26.0	24.0	24.0	18.0	17.0
19	11.0	7.0	17.0	16.0	19.0	18.0	27.0	26.0	24.0	23.0	17.0	17.0
20	8.0	6.0	18.0	17.0	18.0	18.0	27.0	26.0	24.0	24.0	17.0	16.0
21	10.0	8.0	17.0	16.0	18.0	18.0	26.0	25.0	24.0	23.0	17.0	16.0
22	10.0	9.0	16.0	14.0	19.0	18.0	26.0	25.0	24.0	23.0	17.0	17.0
23	9.0	8.0	15.0	14.0	20.0	19.0	27.0	25.0	23.0	22.0	18.0	17.0
24	9.0	7.0	16.0	15.0	19.0	19.0	27.0	26.0	23.0	22.0	18.0	17.0
25	11.0	9.0	16.0	15.0	20.0	19.0	26.0	24.0	24.0	22.0	18.0	18.0
26	13.0	11.0	16.0	15.0	20.0	19.0	26.0	25.0	23.0	22.0	18.0	17.0
27	16.0	13.0	15.0	15.0	24.0	20.0	27.0	26.0	24.0	23.0	18.0	17.0
28	16.0	15.0	16.0	15.0	22.0	20.0	26.0	26.0	23.0	23.0	17.0	15.0
29	16.0	13.0	19.0	16.0	23.0	22.0	26.0	25.0	23.0	23.0	17.0	16.0
30	13.0	12.0	20.0	18.0	24.0	21.0	26.0	25.0	23.0	22.0	17.0	17.0
31	--	--	20.0	19.0	--	--	25.0	24.0	23.0	22.0	--	--

4-2005. BLACK RIVER AT ELYRIA, OHIO

LOCATION.--Lat 41°22'49", long 82°06'17", in T. 6N., R. 17W., Lorain County, at gaging station in Cascade Park at Elyria, 0.8 mile downstream from confluence of East and West Branches.
DRAINAGE AREA.--396 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1962 to September 1969.
Water temperatures: October 1962 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum daily, 1,720 micromhos Oct. 26-29; minimum daily, 313 micromhos Jan. 28, 31.
EXTREMES, 1962-69.--Specific conductance: Maximum daily, 2,550 micromhos Oct. 10, 1966; minimum daily, 215 micromhos Mar. 13, 1963.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)	NITRATE (NO3) (MG/L)
OCT.										
03...	0900	17	--	--	68	0	297	124	.8	82
07...	1430	12	160	250	--	--	--	--	--	--
10...	1400	17	--	--	96	0	285	188	1.4	21
28...	1400	14	--	--	120	0	257	258	.9	101
NOV.										
03...	0900	17	--	--	140	0	281	211	.9	48
06...	1445	32	350	350	--	--	--	--	--	--
20...	1030	130	--	--	128	0	218	138	.3	22
29...	1000	510	--	--	124	0	128	54	.3	5.5
DEC.										
04...	1205	580	2300	190	--	--	--	--	--	--
06...	1400	820	--	--	88	0	118	45	.2	7.4
10...	1400	113	--	--	104	0	196	67	.3	17
24...	0900	812	--	--	84	0	130	54	.2	8.1
JAN.										
07...	0900	150	--	--	128	0	154	54	.3	9.3
13...	1500	57	--	--	144	0	214	133	.3	31
28...	0900	240	--	--	58	0	59	20	.1	8.2
FEB.										
01...	0800	3180	--	--	60	0	58	21	.2	15
06...	1400	206	1300	180	--	--	--	--	--	--
12...	1000	126	--	--	136	0	163	65	.4	24
18...	1600	81	--	--	136	0	199	78	.4	34
MAR.										
17...	1530	60	220	110	--	--	--	--	--	--
18...	1400	58	--	--	116	0	206	120	.3	46
23...	0800	90	--	--	160	0	207	108	.3	38
31...	1000	411	--	--	96	0	128	44	.2	15
APR.										
02...	1600	399	--	--	92	0	135	48	.4	11
17...	1050	138	680	60	--	--	--	--	--	--
23...	1100	1560	--	--	80	0	76	18	.2	6.4
29...	1400	272	--	--	128	0	139	44	.3	9.8
MAY										
07...	0915	81	170	50	--	--	--	--	--	--
14...	1000	357	--	--	108	0	88	24	.2	7.8
19...	1400	10900	--	--	96	0	89	30	.3	23
30...	1100	250	--	--	148	0	141	56	.5	20
JUNE										
04...	0900	101	320	90	--	--	--	--	--	--
14...	0900	36	--	--	168	0	138	70	.7	27
25...	1400	47	--	--	156	0	158	106	.5	42
30...	1500	30	--	--	112	0	68	22	.4	15
JULY										
01...	1215	232	950	160	--	--	--	--	--	--
05...	0900	6400	--	--	114	0	71	26	.4	35
14...	1600	255	--	--	106	0	67	30	.3	15
30...	1100	110	--	--	132	0	108	63	.6	17
AUG.										
01...	1400	85	--	--	132	0	108	65	.5	35
04...	1100	46	420	60	--	--	--	--	--	--
08...	1600	30	--	--	95	0	191	120	.6	62
11...	1400	27	--	--	141	0	239	168	1.1	47
SEPT.										
03...	1210	23	460	140	--	--	--	--	--	--
09...	1500	32	--	--	106	0	214	137	.7	3.4
29...	1100	52	--	--	114	0	146	98	.6	43
30...	1600	38	--	--	118	0	108	36	.4	12

4-2005. BLACK RIVER AT ELYRIA, OHIO--Continued

EXTREMES, 1962-69--Continued
Water temperatures (1962-68): Maximum, 28°C Aug. 6, 8-10, 1968; minimum, freezing point on many days during winter period.
REMARKS.--Samples for iron and manganese were filtered clear when collected. Daily samples were collected at this station and samples were selected for analysis on the following basis: (1) Maximum daily specific conductance for each month, (2) minimum daily specific conductance for each month, (3) median daily specific conductance for each month, and (4) special sample each month to further define the quality of water. Some regulation at low flow for industrial use.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	TEMP-ERATURE (DEG C)	DISS-OLVED OXYGEN (MG/L)	PER-CENT SATUR-ATION
OCT.									
03...	1.2	734	330	274	1190	7.1	18	--	--
07...	--	--	--	--	--	--	15	6.8	67
10...	1.4	824	300	221	1480	6.8	17	--	--
28...	1.2	910	295	196	1720	6.6	12	--	--
NOV.									
03...	1.0	880	340	225	1550	7.0	11	--	--
06...	--	--	--	--	--	--	13	3.8	29
20...	.76	728	340	235	1170	6.7	7	--	--
29...	1.0	400	230	129	649	6.7	4	--	--
DEC.									
04...	--	--	--	--	--	--	6	11.2	90
06...	.47	348	208	136	555	7.6	--	--	--
10...	.80	456	265	180	724	6.9	--	--	--
24...	.39	402	215	146	622	7.0	--	--	--
JAN.									
07...	.23	470	275	170	722	7.1	--	--	--
13...	.40	722	340	222	1190	6.7	--	--	--
28...	.22	214	135	88	313	7.0	--	--	--
FEB.									
01...	.25	220	126	77	318	7.2	--	--	--
06...	--	--	--	--	--	--	1	13.4	94
12...	.26	532	284	172	780	7.5	--	--	--
18...	.16	570	330	218	898	7.3	--	--	--
MAR.									
17...	--	--	--	--	--	--	6	12.2	98
18...	.90	676	324	229	1070	6.6	6	--	--
23...	.82	668	321	190	1030	6.9	7	--	--
31...	.29	384	217	139	591	6.8	7	--	--
APR.									
02...	.41	392	232	157	582	8.0	7	--	--
17...	--	--	--	--	--	--	17	8.9	92
23...	.29	248	146	80	357	7.9	11	--	--
29...	.25	428	259	154	642	7.1	12	--	--
MAY									
07...	--	--	--	--	--	--	20	8.2	89
14...	.62	302	175	86	448	8.0	15	--	--
19...	.27	342	195	117	480	6.9	16	--	--
30...	.55	486	245	124	742	6.8	18	--	--
JUNE									
04...	--	--	--	--	--	--	17	--	--
14...	2.0	512	280	142	814	6.7	21	--	--
25...	1.2	606	298	170	1010	6.9	27	--	--
30...	.31	278	167	75	435	7.3	26	--	--
JULY									
01...	--	--	--	--	--	--	23	8.2	94
05...	.31	260	168	74	397	6.8	27	--	--
14...	.38	274	154	67	431	6.9	30	--	--
30...	.93	432	220	112	693	6.9	30	--	--
AUG.									
01...	1.2	468	220	112	679	7.0	30	--	--
04...	--	--	--	--	--	--	23	6.6	76
08...	.82	674	276	198	1060	6.6	30	--	--
11...	1.2	800	296	180	1360	6.8	30	--	--
SEPT.									
03...	--	--	--	--	--	--	26	1.8	22
09...	.72	674	364	277	1170	6.6	26	--	--
29...	.96	534	272	178	875	6.7	20	--	--
30...	.67	316	222	126	524	7.9	20	--	--

4-2005. BLACK RIVER AT ELYRIA, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1.....	1290	1500	556	589	318	829	583	649	743	429	679	958
2.....	1290	1520	556	592	320	952	582	649	740	438	698	920
3.....	1190	1550	556	591	585	952	587	651	768	436	691	1100
4.....	1380	1550	556	591	582	925	589	644	769	429	1060	1120
5.....	1480	1540	556	720	584	950	589	555	768	397	1070	1130
6.....	1470	1510	555	720	588	947	587	453	769	428	1070	1130
7.....	1390	1340	556	722	585	923	584	453	771	424	1060	1130
8.....	1390	1390	556	846	585	1060	553	451	764	434	1060	1100
9.....	1480	1370	723	963	583	1050	550	453	773	433	1010	1170
10.....	1480	1390	724	973	584	1050	552	452	814	428	1060	1090
11.....	1480	1160	724	973	777	1050	552	452	818	432	1360	1150
12.....	1460	1180	721	953	780	1040	553	452	828	430	1360	1110
13.....	1470	1190	723	1190	780	1070	551	452	818	429	977	1150
14.....	1380	1180	721	1180	777	1040	554	448	814	431	1350	1100
15.....	1390	1170	723	1160	772	1040	628	455	814	424	1350	1100
16.....	1470	1160	721	1180	886	1040	629	452	818	421	1350	754
17.....	1470	1160	721	1160	893	1040	631	450	822	430	1340	754
18.....	1570	1170	721	1160	898	1070	627	448	832	430	1250	749
19.....	1560	1180	724	1180	895	1050	624	480	824	419	1240	756
20.....	1510	1170	723	1170	893	1050	626	475	818	429	1240	754
21.....	1500	1180	724	1170	893	1040	624	482	822	431	1250	744
22.....	1590	1160	720	1180	891	1040	361	482	828	422	1240	732
23.....	1560	653	723	480	893	1030	357	480	820	426	1190	869
24.....	1470	650	622	474	833	713	361	482	811	415	1240	827
25.....	1580	650	621	474	835	709	361	485	1010	422	980	847
26.....	1720	651	621	473	831	709	361	654	1000	430	974	869
27.....	1720	649	621	318	--	709	361	721	961	579	977	864
28.....	1720	651	621	313	829	709	363	726	994	683	986	862
29.....	1720	649	621	316	--	709	642	736	439	690	974	875
30.....	1700	--	622	321	--	709	641	742	435	693	994	524
31.....	1550	--	600	313	--	591	--	734	--	692	994	--
AVERAGE	1500	1150	652	788	728	928	538	538	800	465	1100	941

MAXIMUM VALUE = 1720 MINIMUM VALUE = 313

4-2005. BLACK RIVER AT ELYRIA, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	DAY																														AVER-
MONTH	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	AGE
OCTOBER..	21	19	18	17	17	17	17	17	17	17	17	17	17	17	17	18	18	18	18	17	17	16	16	14	14	13	13	12	12	11	11	16
NOVEMBER.	11	11	11	11	11	11	11	11	11	11	11	10	10	10	10	9	9	9	8	7	7	7	4	5	4	4	4	4	4	--	--	8
DECEMBER.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
JANUARY..	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FEBRUARY.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MARCH....	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7	--
APRIL....	7	7	8	8	8	8	8	8	9	9	9	10	10	10	8	8	9	8	9	10	10	10	11	11	11	11	11	12	12	12	--	9
MAY.....	12	12	12	12	12	14	14	14	15	15	15	15	15	15	15	16	16	16	16	16	17	17	17	17	17	17	18	18	18	18	18	15
JUNE.....	19	19	18	18	18	18	19	19	19	21	21	21	21	21	21	21	21	21	21	21	21	21	23	23	27	27	29	29	26	26	--	22
JULY.....	26	26	26	27	27	28	28	28	28	28	28	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29
AUGUST...	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SEPTEMBER	30	30	30	30	30	30	30	30	26	26	24	24	24	22	22	22	22	21	21	21	21	20	20	20	20	20	20	20	20	20	--	24

4-2005.5. BLACK RIVER BELOW ELYRIA, OHIO

LOCATION.--Lat 41°24'42", long 82°05'45", Lorain County, at Ford Road bridge on north edge of Elyria, 0.7 mile downstream from Elyria sewage disposal plant, and 5.2 miles downstream from gaging station at Elyria.
DRAINAGE AREA.--412 sq mi.
PERIOD OF RECORD.--Chemical analyses: January 1966 to September 1969.
Water temperatures: January 1966 to September 1969.
EXTREMES, 1966-69.--Specific conductance (January to September 1966, 1967-68): Maximum, 1,500 micromhos or greater on many days during April and May, July to September 1966; minimum, 220 micromhos Feb. 11, 1966.
Dissolved oxygen (January to September 1966): Maximum, 15.0 mg/l or greater on several days during April to June 1966; minimum, 0.0 mg/l June 3, 5, 6, July 3, 4, 1966.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
07...	1410	12	42	0	169	98	1.2
27...	1030	11	16	0	219	182	1.2
NOV.							
06...	1610	30	116	0	200	230	1.0
19...	1455	150	158	0	148	85	.4
DEC.							
05...	1600	1300	118	0	146	58	.4
15...	1445	262	84	0	119	53	.2
JAN.							
09...	1800	79	124	0	179	96	.4
19...	1130	1680	66	0	72	29	.2
FEB.							
03...	0910	848	82	0	92	31	.2
19...	1730	76	122	0	194	49	.5
MAR.							
20...	1255	68	89	0	211	109	.7
30...	1530	438	104	0	140	57	.3
MAY							
04...	1250	115	143	6	138	48	.4
JUNE							
20...	1317	63	113	0	93	30	.2
JULY							
07...	1530	4970	64	0	30	6.7	.2
10...	1707	580	246	0	174	108	.7
AUG.							
21...	1105	20	6	0	223	105	.6
23...	1710	23	8	0	178	140	.9
SEPT.							
04...	1030	19	72	0	185	144	1.0
21...	1630	36	174	0	144	79	.8

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1290	1210	1420	1350	900	810	---	---	---	---	950	870
2	1280	1200	1420	1320	1040	890	---	---	---	---	920	850
3	1200	1030	1360	1300	1070	1000	---	---	---	---	910	830
4	1140	1030	1450	1250	1060	730	---	---	---	---	970	890
5	1110	1040	1490	1380	750	670	---	---	---	---	1000	890
6	1040	980	1500	1230	680	560	---	---	---	---	1010	940
7	1060	930	1320	1240	560	520	---	---	680	630	1010	920
8	1130	1030	1310	1210	610	520	900	880	700	650	1070	930
9	1130	1060	1320	1120	720	530	950	860	820	650	1050	910
10	1060	990	1160	1140	750	720	1020	920	830	750	1070	910
11	1170	1020	1280	1160	840	740	1020	970	860	780	1290	1000
12	1220	1150	1280	960	930	780	970	940	830	770	1290	1070
13	1160	1120	1200	1060	930	720	1040	970	860	780	1150	1060
14	1300	1080	1150	1050	720	660	1170	1030	900	830	1130	1070
15	1340	1230	1140	840	690	590	1140	1110	---	---	1150	1070
16	1340	1270	900	720	680	630	1250	1140	---	---	1130	1010
17	1310	1260	880	820	740	670	1480	1250	---	---	1020	960
18	1290	1190	880	840	850	740	1250	360	---	---	1090	980
19	1290	1210	880	740	970	840	470	340	---	---	1100	1040
20	1300	1240	970	880	930	670	450	360	---	---	1140	1030
21	1310	1210	970	850	670	610	460	360	---	---	1210	1060
22	1360	1280	1110	910	660	580	510	440	---	---	1090	1010
23	1360	1300	1120	1010	680	450	570	510	---	---	1010	960
24	1340	1270	1130	1060	520	460	550	500	---	---	1060	980
25	1290	1140	1170	1060	620	520	520	490	---	---	1020	940
26	1280	1240	1190	1020	710	610	600	500	---	---	960	780
27	1340	1260	1200	1110	910	530	740	590	870	840	790	730
28	1420	1220	1230	860	530	---	1090	740	920	850	820	740
29	1440	1220	890	720	---	---	1070	700	---	---	810	720
30	1500	1430	810	680	---	---	710	400	---	---	730	660
31	1440	1400	---	---	---	---	---	---	---	---	700	650

4-2005.5. BLACK RIVER BELOW ELYRIA, OHIO--Continued

EXTREMES, 1966-69--Continued
Water temperatures (1966-68): Maximum, 29°C July 3, 1966, June 15, 1967; minimum, freezing point on many days during winter period.

REMARKS.--Continuous water quality recorder operated since January 1966. Specific conductance values listed as 1,500 micromhos represent values of 1,500 micromhos or greater, due to instrument limitations. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. The quality of the water is affected by sewage disposal and industrial waste. Records of discharge are given for 04-2005.00 Black River at Elyria, Ohio (drainage area 396 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.							
07...	80	14	590	240	206	934	6.0
27...	93	10	802	266	253	1340	5.8
NOV.							
06...	24	8.9	792	248	153	1490	6.6
19...	15	1.8	534	282	152	852	7.6
DEC.							
05...	13	1.5	466	274	177	720	7.6
15...	11	1.0	378	236	167	587	7.7
JAN.							
09...	42	2.5	618	298	196	943	6.9
19...	12	.85	286	136	82	387	7.2
FEB.							
03...	14	.19	302	174	107	454	7.7
19...	41	1.9	640	324	224	979	6.8
MAR.							
20...	51	1.4	684	330	257	1070	6.6
30...	13	.64	426	244	159	667	8.1
MAY							
04...	22	2.1	438	300	173	687	8.2
JUNE							
20...	5.5	.84	304	170	77	464	7.0
JULY							
07...	9.7	.48	122	91	38	200	7.0
10...	2.2	7.0	610	272	70	1060	7.2
AUG.							
21...	88	.89	640	284	283	1000	5.8
23...	132	10	700	276	275	1210	6.0
SEPT.							
04...	73	1.7	632	206	147	1140	6.2
21...	39	.86	460	220	78	868	6.7

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	790	690	610	550	660	560	720	670	---	---	---	---
2	840	700	650	600	780	580	900	700	---	---	---	---
3	700	620	630	550	750	660	960	900	---	---	---	---
4	690	620	690	630	800	720	970	760	---	---	1120	1000
5	700	370	670	610	880	760	790	460	---	---	1070	880
6	370	270	650	580	880	820	---	---	---	---	950	720
7	410	310	650	550	870	810	---	---	---	---	980	820
8	---	---	630	540	810	760	---	---	---	---	1040	700
9	---	---	---	---	860	760	---	---	---	---	1000	860
10	---	---	---	---	890	840	---	---	---	---	1030	980
11	---	---	---	---	910	850	---	---	---	---	1040	1000
12	---	---	---	---	950	890	---	---	1150	950	1080	1040
13	---	---	---	---	920	880	---	---	1050	950	1100	1080
14	---	---	---	---	940	840	450	370	1120	1040	1100	1030
15	---	---	---	---	900	800	500	450	1160	1070	1250	1030
16	---	---	---	---	860	790	600	500	1100	890	1300	1170
17	---	---	---	---	880	810	550	390	960	900	1250	620
18	---	---	---	---	930	870	---	---	---	---	670	620
19	---	---	---	---	960	870	---	---	---	---	760	670
20	---	---	---	---	990	890	---	---	---	---	760	750
21	---	---	380	330	990	960	---	---	---	---	810	750
22	---	---	440	380	970	880	---	---	---	---	900	790
23	470	410	550	440	960	860	---	---	---	---	970	800
24	410	330	530	500	990	900	---	---	---	---	970	750
25	370	310	570	530	1000	950	---	---	---	---	980	930
26	420	330	630	560	1010	960	---	---	---	---	940	850
27	460	400	700	630	1010	790	---	---	---	---	880	720
28	510	430	720	660	910	810	---	---	---	---	880	730
29	550	480	750	420	840	790	---	---	---	---	920	880
30	580	550	520	400	880	670	---	---	---	---	960	880
31	---	---	590	520	---	---	---	---	---	---	---	---

4-2005.5. BLACK RIVER BELOW ELYRIA, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	5.2	2.6	---	---	---	---	---	---	---	---
7	4.7	4.4	2.9	2.5	---	---	---	---	12.0	10.5	---	---
8	5.1	4.0	3.4	2.9	---	---	---	---	10.5	10.1	---	---
9	4.5	3.7	3.9	3.4	---	---	---	---	10.3	10.1	---	---
10	3.7	3.2	---	3.3	---	---	---	---	10.4	9.1	---	---
11	---	---	---	---	---	---	---	---	10.3	10.2	---	---
12	---	---	---	---	---	---	---	---	10.8	10.3	---	---
13	3.6	2.8	---	---	---	---	---	---	10.8	10.5	---	---
14	2.9	2.1	---	---	---	---	---	---	10.8	10.0	---	---
15	2.4	1.9	---	---	---	---	---	---	---	---	---	---
16	2.4	2.0	---	---	---	---	---	---	---	---	---	---
17	2.7	2.0	---	---	---	---	---	---	---	---	---	---
18	2.7	1.9	---	---	---	---	---	---	---	---	---	---
19	3.0	2.2	---	---	---	---	---	---	---	---	---	---
20	4.0	2.4	---	---	---	---	---	---	---	---	---	---
21	3.7	3.2	---	---	---	---	---	---	---	---	---	---
22	3.5	3.1	---	---	---	---	---	---	---	---	---	---
23	3.7	2.8	---	---	---	---	---	---	---	---	---	---
24	3.4	3.0	---	---	---	---	---	---	---	---	---	---
25	3.1	2.6	---	---	---	---	---	---	---	---	---	---
26	4.0	2.7	---	---	---	---	---	---	---	---	---	---
27	3.5	2.9	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	9.2	8.3	---	---	3.0	2.7	---	---	---	---
2	---	---	9.0	7.9	---	---	---	2.8	---	---	---	---
3	---	---	8.2	7.4	---	---	---	4.1	---	---	---	---
4	---	---	8.0	7.8	---	---	5.7	2.4	---	---	---	---
5	---	---	---	---	---	---	3.9	2.5	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	3.0	---	---	---	---	---	---
18	---	---	---	---	9.0	4.9	---	---	---	---	---	---
19	---	---	---	---	5.2	3.4	---	---	---	---	---	---
20	---	---	---	---	4.0	2.9	---	---	---	---	---	---
21	---	---	---	---	5.0	2.5	---	---	---	---	---	---
22	---	---	---	---	5.6	2.7	---	---	---	---	---	---
23	10.7	9.9	---	---	4.1	2.7	---	---	---	---	---	---
24	10.2	9.8	---	---	3.7	2.5	---	---	---	---	---	---
25	9.3	9.1	---	---	3.8	2.2	---	---	---	---	---	---
26	9.2	8.3	---	---	3.4	2.1	---	---	---	---	---	---
27	8.5	7.9	---	---	3.0	2.2	---	---	---	---	---	---
28	8.3	7.9	---	---	3.1	2.4	---	---	---	---	---	---
29	8.6	8.3	---	---	3.6	3.1	---	---	---	---	---	---
30	9.1	8.6	---	---	---	2.7	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

4-2005.5. BLACK RIVER BELOW ELYRIA, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	17.0	15.0	10.0	4.0	3.0	--	--	--	--	4.0	2.0
2	21.0	19.0	16.0	13.0	4.0	3.0	--	--	--	--	3.0	2.0
3	21.0	18.0	14.0	12.0	4.0	3.0	--	--	--	--	5.0	3.0
4	18.0	16.0	14.0	11.0	4.0	2.0	--	--	--	--	5.0	2.0
5	17.0	14.0	14.0	11.0	2.0	0.0	--	--	--	--	6.0	1.0
6	17.0	14.0	15.0	8.0	1.0	0.0	--	--	--	--	6.0	2.0
7	17.0	14.0	13.0	12.0	1.0	0.0	--	--	2.0	1.0	6.0	2.0
8	17.0	13.0	12.0	10.0	2.0	1.0	1.0	1.0	2.0	1.0	6.0	3.0
9	17.0	13.0	11.0	8.0	2.0	1.0	1.0	1.0	2.0	0.0	5.0	3.0
10	18.0	16.0	11.0	8.0	2.0	1.0	1.0	0.0	2.0	0.0	4.0	2.0
11	17.0	14.0	12.0	8.0	2.0	1.0	2.0	1.0	3.0	0.0	3.0	1.0
12	18.0	14.0	12.0	7.0	4.0	2.0	2.0	1.0	2.0	1.0	5.0	1.0
13	18.0	15.0	9.0	7.0	6.0	3.0	3.0	2.0	1.0	0.0	6.0	1.0
14	19.0	16.0	8.0	6.0	3.0	2.0	3.0	2.0	1.0	0.0	5.0	2.0
15	19.0	16.0	11.0	8.0	2.0	1.0	4.0	1.0	1.0	0.0	6.0	1.0
16	19.0	17.0	10.0	8.0	2.0	1.0	7.0	3.0	--	--	7.0	2.0
17	20.0	18.0	9.0	8.0	3.0	1.0	9.0	7.0	--	--	7.0	3.0
18	20.0	19.0	9.0	8.0	2.0	1.0	9.0	2.0	--	--	9.0	4.0
19	19.0	17.0	8.0	6.0	4.0	2.0	4.0	1.0	--	--	11.0	5.0
20	17.0	14.0	7.0	5.0	3.0	1.0	4.0	4.0	--	--	10.0	7.0
21	15.0	14.0	6.0	4.0	1.0	1.0	6.0	4.0	--	--	8.0	6.0
22	16.0	13.0	7.0	4.0	2.0	1.0	6.0	4.0	--	--	9.0	4.0
23	16.0	12.0	9.0	4.0	3.0	2.0	8.0	6.0	--	--	9.0	4.0
24	14.0	12.0	11.0	8.0	2.0	1.0	8.0	6.0	--	--	7.0	7.0
25	14.0	12.0	8.0	6.0	2.0	2.0	7.0	4.0	--	--	8.0	6.0
26	13.0	11.0	8.0	5.0	2.0	0.0	6.0	5.0	--	--	6.0	4.0
27	13.0	11.0	8.0	7.0	2.0	1.0	7.0	5.0	3.0	2.0	6.0	3.0
28	14.0	10.0	10.0	7.0	--	--	9.0	7.0	4.0	1.0	6.0	4.0
29	14.0	8.0	8.0	6.0	--	--	10.0	9.0	--	--	6.0	4.0
30	13.0	9.0	6.0	4.0	--	--	9.0	6.0	--	--	4.0	3.0
31	13.0	8.0	--	--	--	--	--	--	--	--	4.0	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	3.0	16.0	11.0	23.0	21.0	23.0	21.0	--	--	--	--
2	6.0	4.0	18.0	12.0	22.0	19.0	24.0	20.0	--	--	--	--
3	7.0	4.0	19.0	15.0	19.0	17.0	24.0	21.0	--	--	--	--
4	8.0	6.0	20.0	17.0	19.0	16.0	23.0	22.0	--	--	--	--
5	10.0	8.0	21.0	17.0	19.0	17.0	22.0	21.0	--	--	--	--
6	9.0	9.0	21.0	17.0	21.0	17.0	--	--	--	--	--	--
7	10.0	9.0	21.0	18.0	20.0	18.0	--	--	--	--	--	--
8	--	--	21.0	18.0	19.0	17.0	--	--	--	--	--	--
9	--	--	--	--	21.0	16.0	--	--	--	--	--	--
10	--	--	--	--	21.0	17.0	--	--	--	--	--	--
11	--	--	--	--	22.0	18.0	--	--	--	--	--	--
12	--	--	--	--	24.0	21.0	--	--	--	--	--	--
13	--	--	--	--	24.0	22.0	--	--	--	--	--	--
14	--	--	--	--	22.0	19.0	--	--	--	--	--	--
15	--	--	--	--	19.0	17.0	--	--	--	--	--	--
16	--	--	--	--	20.0	17.0	--	--	--	--	--	--
17	--	--	--	--	21.0	17.0	--	--	--	--	--	--
18	--	--	--	--	20.0	18.0	--	--	--	--	--	--
19	--	--	--	--	21.0	18.0	--	--	--	--	--	--
20	--	--	--	--	20.0	18.0	--	--	--	--	--	--
21	--	--	18.0	17.0	21.0	17.0	--	--	--	--	--	--
22	--	--	17.0	15.0	20.0	18.0	--	--	--	--	--	--
23	8.0	8.0	16.0	14.0	21.0	19.0	--	--	--	--	--	--
24	8.0	7.0	17.0	15.0	21.0	19.0	--	--	--	--	--	--
25	11.0	8.0	17.0	16.0	22.0	19.0	--	--	--	--	--	--
26	13.0	10.0	18.0	14.0	25.0	21.0	--	--	--	--	--	--
27	16.0	13.0	18.0	14.0	26.0	23.0	--	--	--	--	--	--
28	17.0	15.0	21.0	17.0	25.0	22.0	--	--	--	--	--	--
29	15.0	12.0	23.0	18.0	23.0	21.0	--	--	--	--	--	--
30	16.0	12.0	20.0	18.0	24.0	22.0	--	--	--	--	--	--
31	--	--	21.0	18.0	--	--	--	--	--	--	--	--

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO

LOCATION.--Lat 41°23'43", long 81°37'48", in T.6 N., R.12 W., Cuyahoga County, at gaging station on left bank 240 ft downstream from highway bridge on Old Rockside Road, 0.8 mile northeast of Independence, and 3 miles downstream from Tinkers Creek.
DRAINAGE AREA.--707 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1948 to September 1949, July 1965 to September 1969.
Water temperatures: October 1948 to September 1949, October 1952 to September 1969.
Sediment records: October 1950 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 2,000 micromhos or greater Oct. 17, 23, 24, Sept. 16, 17; minimum, 300 micromhos May 19.
Water temperatures: Maximum, 27°C Aug. 30, 31, Sept. 1; minimum, 1°C Jan. 2, 13, 14, Feb. 5, 6.
Sediment concentrations: Maximum daily, 2,500 mg/l July 5; minimum daily, 5 mg/l Sept. 1.
Sediment loads: Maximum daily, 47,000 tons July 5; minimum daily, 1.4 tons Sept. 1.
EXTREMES, 1948-49, 1950-69.--Specific conductance (1968-69): Maximum, 2,000 micromhos or greater Oct. 17, 23, 24, 1968, Sept. 16, 17, 1969; minimum, 300 micromhos May 19, 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	FLUO-RIDE (F) (MG/L)
OCT.							
17...	1245	152	176	0	172	365	.6
30...	1145	354	160	0	119	122	.5
NOV.							
14...	1540	280	172	0	118	190	.4
28...	1545	2270	110	0	83	60	.2
DEC.							
05...	1545	2090	88	0	77	42	.2
26...	1530	710	110	0	92	154	.2
JAN.							
02...	1530	1840	72	0	65	53	.3
17...	1730	402	64	0	195	180	3.1
FEB.							
04...	1550	2580	68	0	126	56	.3
20...	1550	495	130	0	120	172	.4
MAR.							
13...	1545	346	148	0	129	248	.6
26...	0935	1630	104	0	100	98	.4
APR.							
01...	1530	1030	112	0	88	121	.4
08...	1550	2710	78	0	58	37	.2
MAY							
06...	1545	475	142	0	118	192	.5
20...	1530	3370	100	0	63	47	.4
JUNE							
03...	1530	832	124	0	88	72	.5
12...	1545	258	166	0	128	228	.6
JULY							
02...	1600	500	96	0	57	50	.3
03...	1600	291	154	0	138	150	.5
AUG.							
05...	1330	240	170	0	107	134	.6
14...	1600	140	174	0	141	312	.8
SEPT.							
16...	1610	153	210	0	147	535	.8
18...	1600	355	122	0	108	114	.8

GPO 822-622 - 21

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

EXTREMES, 1948-49, 1950-69--Continued
Water temperatures (1948-49, 1952-67, 1968-69): Maximum, 31°C Aug. 18, 1949; minimum, freezing point on many days during winter period.
Sediment concentrations (1950-69): Maximum daily, 4,800 mg/l Aug. 21, 1960; minimum daily, 1 mg/l Sept. 4, 10, 1955.
Sediment loads (1950-69): Maximum daily, 51,400 tons Mar. 5, 1964; minimum daily, 0.25 ton Sept. 4, 1955.
REMARKS.--Continuous water quality recorder operated since July 1964. Specific conductance values listed as 2,000 micromhos represent values of 2,000 micromhos or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on the maximum specific conductance and the minimum specific conductance of the samples collected each month. Daily sediment loads computed by subdivision on Oct. 19, 25, 26, Nov. 15, 28, 29, Dec. 4, 5, 13, 22, 27, 29, Jan. 17, 18, 29, 30, Mar. 21, 24, Apr. 2, 5, 18, 23, May 7-9, 11, 17, 18, June 2, 3, 20, 23, 24, 30, July 4, 5, 20, 21, Sept. 3, 10, 17, 18. Diurnal fluctuations caused by powerplants above station. Water diverted into Ohio Canal at Brecksville, 6 miles upstream, bypasses the station.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
OCT.						
17...	18	1060	290	146	1860	6.7
30...	19	552	261	130	918	7.4
NOV.						
14...	14	674	258	117	1170	6.9
28...	5.8	328	170	80	561	6.9
DEC.						
05...	12	278	159	87	468	7.3
26...	17	522	207	117	915	6.9
JAN.						
02...	4.4	278	132	73	455	8.0
17...	25	772	296	243	1210	6.3
FEB.						
04...	7.4	290	125	70	457	6.9
20...	5.1	648	250	144	1060	6.9
MAR.						
13...	16	756	255	134	1350	6.8
26...	6.9	446	195	110	733	7.5
APR.						
01...	9.5	468	202	110	783	7.7
08...	5.1	232	138	74	386	8.0
MAY						
06...	12	674	253	136	1120	8.2
20...	4.3	294	156	74	457	7.6
JUNE						
03...	10	416	198	96	617	7.9
12...	15	806	152	16	1260	7.1
JULY						
02...	3.7	308	138	59	468	7.8
03...	24	626	248	122	978	6.8
AUG.						
05...	18	530	254	114	923	6.9
14...	27	926	292	149	1700	6.6
SEPT.						
16...	41	1350	308	136	2360	7.0
18...	10	506	204	104	835	6.9

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1350	560	1380	800	610	480	550	420	420	370	880	740
2	1380	650	1370	900	590	460	700	460	410	360	860	730
3	1400	780	1240	680	600	450	800	470	460	370	1140	720
4	1480	760	1100	760	590	390	640	540	550	430	1190	830
5	1090	540	1140	780	560	360	700	600	570	470	1050	820
6	1360	620	1080	630	610	400	840	660	530	490	1040	900
7	1200	680	1470	540	620	510	790	590	720	520	1070	800
8	1220	630	1200	550	660	520	890	670	670	570	1120	960
9	1380	600	1130	730	680	610	1110	700	820	590	1100	910
10	1320	850	1440	760	970	640	760	630	1130	820	1120	920
11	1670	800	1200	750	810	650	770	660	890	820	1310	1060
12	1570	940	1200	640	840	570	790	670	880	820	1700	1260
13	1590	900	1450	680	990	500	920	730	910	820	1990	1330
14	1910	1150	1280	810	750	560	1290	810	1170	850	1740	1260
15	1770	1010	1340	810	730	550	1260	890	1040	910	1310	1180
16	1500	1080	840	510	810	620	1090	830	1010	850	1240	1110
17	2000	980	660	530	940	580	1230	950	890	800	1160	1040
18	1830	1000	700	560	810	500	1230	370	1100	760	1100	980
19	1600	980	700	510	720	530	510	410	1250	990	1200	1030
20	1520	720	780	550	720	450	480	410	1260	970	1070	910
21	1140	770	790	660	840	600	460	420	1190	840	990	820
22	1330	980	830	680	760	530	470	390	1450	980	1000	890
23	2000	890	780	650	690	440	520	470	1190	890	1000	880
24	2000	1090	720	540	660	510	500	430	940	860	980	820
25	1550	600	660	510	850	540	560	480	950	790	920	790
26	1030	710	710	550	1040	580	580	490	930	810	820	530
27	1080	850	810	520	850	470	620	410	1010	800	860	730
28	1270	680	760	410	530	380	730	570	900	780	810	620
29	1240	460	540	410	490	400	1010	700	---	---	760	630
30	1170	690	560	460	540	460	630	380	---	---	650	580
31	1420	850	---	---	590	420	380	360	---	---	650	580

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	840	600	680	600	---	---	---	---	1090	1020	1600	1340
2	800	530	720	400	---	---	---	---	1160	1050	1560	1350
3	630	530	---	---	---	---	---	---	1200	1140	1400	1110
4	650	570	---	---	---	---	---	---	1220	920	1270	1060
5	740	310	---	---	---	---	---	---	1190	1090	1360	1160
6	370	360	---	---	---	---	---	---	1160	1090	1320	1170
7	400	370	---	---	---	---	---	---	1300	1160	1260	1120
8	420	390	1100	490	---	---	---	---	1210	1110	1290	1250
9	450	410	640	440	---	---	---	---	1340	1140	1730	1270
10	520	370	830	440	---	---	---	---	1750	1340	1500	1240
11	450	410	540	380	---	---	---	---	1420	1250	1550	1240
12	560	450	660	410	---	---	---	---	1250	1190	1860	1350
13	600	490	670	450	---	---	---	---	1300	1160	1770	1460
14	570	510	700	610	---	---	---	---	1700	1210	1660	1510
15	590	540	720	620	---	---	---	---	1460	1380	1720	1490
16	600	550	690	600	---	---	---	---	1600	1370	2000	1400
17	740	570	850	600	---	---	---	---	1390	1360	2000	900
18	660	510	610	380	---	---	---	---	1740	1320	1020	760
19	510	420	430	300	---	---	---	---	1740	1110	1080	870
20	560	490	480	370	---	---	---	---	1170	780	1090	1030
21	560	500	460	430	---	---	---	---	1160	910	1080	1020
22	620	500	640	400	---	---	---	---	1240	1120	1220	1080
23	530	450	660	460	---	---	670	630	1490	1240	1430	1090
24	490	450	680	470	---	---	870	670	1770	1340	1800	1330
25	530	480	530	470	---	---	880	710	1390	1300	1620	1340
26	570	520	590	430	---	---	940	870	1430	1260	1620	1310
27	590	550	790	510	---	---	990	900	1350	1270	1420	1140
28	640	550	---	---	---	---	960	900	1380	1290	1400	1150
29	760	630	---	---	---	---	950	900	1420	1270	1470	1250
30	700	600	---	---	---	---	1040	930	1910	1340	1780	1260
31	---	---	---	---	---	---	1070	1000	1580	1280	---	---

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.1	4.6	9.4	6.1	10.0	---	12.7	11.6	14.1	11.6	---	---
2	5.0	4.2	7.7	5.4	10.3	---	12.5	11.5	13.0	11.8	---	---
3	4.7	4.1	6.0	5.3	9.8	---	12.3	10.4	13.0	11.7	---	---
4	5.7	4.2	6.6	6.0	9.9	---	11.9	10.5	13.3	11.8	---	---
5	6.1	5.6	6.5	5.9	9.9	---	11.9	11.5	13.4	12.0	---	---
6	6.2	5.4	6.2	5.8	10.1	---	12.2	11.6	14.0	10.9	---	---
7	7.0	5.6	6.2	5.5	10.2	---	11.8	11.4	13.5	12.0	---	---
8	7.3	5.6	6.4	5.7	10.2	---	12.0	11.5	13.3	11.6	---	---
9	8.9	5.0	6.9	6.1	10.4	---	11.8	11.3	13.4	11.4	---	---
10	8.2	4.9	7.8	6.8	10.4	---	11.9	11.5	12.6	11.7	---	---
11	5.4	4.7	8.0	7.5	10.4	10.0	12.0	11.7	12.1	11.3	---	---
12	6.6	4.7	8.0	6.1	10.0	9.6	12.0	11.7	11.5	10.8	---	---
13	7.0	4.7	7.1	5.8	9.9	9.7	12.3	11.9	11.2	7.7	---	---
14	6.8	4.3	7.7	6.1	10.0	9.7	11.9	11.3	---	---	---	---
15	6.2	4.0	8.3	6.3	10.4	10.0	11.3	10.7	---	---	---	---
16	5.2	3.8	9.3	6.8	10.4	10.2	11.0	10.5	---	---	---	---
17	4.6	3.6	9.8	9.2	10.3	9.9	10.5	9.7	---	---	---	---
18	4.4	3.2	9.9	8.4	10.3	9.9	13.1	10.5	---	---	---	---
19	4.4	3.4	9.3	7.6	10.1	9.6	13.2	12.9	---	---	---	---
20	5.6	3.6	9.8	9.1	10.2	9.4	13.6	12.9	---	---	---	---
21	5.6	4.7	9.7	9.1	10.3	10.1	13.0	12.7	---	---	---	---
22	5.4	4.6	9.5	8.9	10.7	10.0	12.9	12.7	---	---	---	---
23	5.3	4.7	9.1	8.4	11.0	10.2	13.0	12.7	---	---	---	---
24	5.3	4.7	8.4	7.0	11.1	11.0	12.9	12.0	---	---	---	---
25	5.8	4.9	8.4	7.8	11.3	11.1	13.7	12.8	---	---	---	---
26	6.4	5.6	8.2	7.3	11.4	11.2	13.9	13.7	---	---	11.7	10.5
27	6.2	5.8	7.4	6.7	11.8	11.0	14.2	13.9	---	---	10.8	10.5
28	6.1	5.4	8.3	6.6	12.2	11.0	14.1	13.2	---	---	10.9	10.6
29	6.8	6.1	9.5	8.7	12.6	11.2	13.4	12.0	---	---	10.8	10.4
30	6.7	6.0	9.9	9.4	12.3	12.0	13.2	12.6	---	---	11.1	10.7
31	6.9	6.1	---	---	12.3	12.0	13.2	11.4	---	---	11.2	10.9

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	11.0	9.8	7.9	---	---	---	---	---	---	3.2	3.1
2	11.4	10.7	10.6	5.1	---	---	---	---	---	---	3.2	3.1
3	10.9	10.4	---	---	---	---	---	---	---	---	3.3	3.1
4	11.0	10.2	---	---	---	---	---	---	---	---	3.3	3.1
5	10.7	10.0	---	---	---	---	---	---	---	---	3.9	3.1
6	9.9	9.3	---	---	---	---	---	---	---	---	3.5	3.0
7	9.3	8.8	---	---	---	---	---	---	---	---	3.6	2.9
8	9.0	8.5	9.8	8.9	---	---	---	---	---	---	4.0	3.2
9	8.6	8.2	9.1	8.6	---	---	---	---	---	---	4.6	3.5
10	9.2	8.4	8.9	8.4	---	---	---	---	---	---	5.1	4.3
11	9.2	8.5	8.8	8.6	---	---	---	---	---	---	5.1	4.7
12	8.6	8.3	9.2	8.7	---	---	---	---	4.1	3.9	4.7	4.2
13	8.4	8.1	9.5	8.8	---	---	---	---	4.2	3.5	4.2	3.5
14	8.4	8.2	9.0	8.8	---	---	---	---	3.9	3.1	3.7	3.1
15	8.6	8.4	9.4	8.9	---	---	---	---	3.8	2.9	3.3	3.5
16	9.0	8.6	9.5	8.6	---	---	---	---	3.5	2.7	3.7	3.4
17	10.1	8.2	10.2	9.0	---	---	---	---	3.6	2.8	4.5	1.0
18	10.5	8.2	10.1	9.2	---	---	---	---	3.3	2.1	5.2	1.1
19	8.5	8.0	10.8	10.1	---	---	---	---	3.0	1.9	6.1	5.1
20	8.2	8.0	11.0	9.9	---	---	---	---	3.2	2.2	6.2	5.7
21	8.2	8.0	9.9	9.4	---	---	---	---	2.8	2.4	6.2	5.7
22	8.2	7.9	9.8	9.6	---	---	---	---	2.6	2.4	6.2	5.9
23	8.1	7.9	10.0	9.6	---	---	2.1	1.8	2.6	2.4	6.5	5.6
24	8.4	7.8	9.9	9.6	---	---	2.4	1.1	2.6	2.5	6.6	6.0
25	8.2	8.0	9.6	9.5	---	---	1.4	0.3	2.8	2.6	6.8	6.3
26	8.5	8.2	9.6	9.3	---	---	---	---	2.9	2.8	7.1	6.4
27	8.7	8.4	9.9	8.7	---	---	---	---	3.2	3.0	7.1	6.9
28	8.6	8.4	---	---	---	---	---	---	3.3	3.1	6.9	6.7
29	8.8	8.4	---	---	---	---	---	---	3.3	3.1	7.4	6.4
30	9.3	8.1	---	---	---	---	---	---	3.3	3.1	7.4	6.4
31	---	---	---	---	---	---	---	---	3.3	3.1	---	---

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	17.0	13.0	11.0	6.0	6.0	2.0	2.0	4.0	3.0	6.0	4.0
2	20.0	18.0	14.0	13.0	7.0	6.0	2.0	1.0	3.0	3.0	6.0	5.0
3	20.0	19.0	14.0	13.0	7.0	7.0	3.0	2.0	3.0	2.0	6.0	4.0
4	19.0	15.0	13.0	12.0	7.0	6.0	2.0	2.0	3.0	2.0	6.0	4.0
5	15.0	14.0	12.0	11.0	6.0	5.0	2.0	2.0	2.0	1.0	6.0	5.0
6	15.0	14.0	12.0	12.0	5.0	4.0	2.0	2.0	2.0	1.0	6.0	6.0
7	16.0	15.0	13.0	12.0	4.0	4.0	2.0	2.0	3.0	2.0	8.0	6.0
8	16.0	15.0	12.0	11.0	4.0	3.0	3.0	2.0	3.0	2.0	8.0	7.0
9	16.0	14.0	11.0	9.0	3.0	3.0	3.0	3.0	3.0	2.0	8.0	7.0
10	17.0	16.0	9.0	9.0	4.0	3.0	3.0	2.0	3.0	2.0	8.0	7.0
11	17.0	15.0	9.0	9.0	3.0	3.0	3.0	2.0	4.0	3.0	7.0	6.0
12	16.0	15.0	9.0	8.0	4.0	3.0	3.0	2.0	4.0	4.0	7.0	6.0
13	17.0	16.0	8.0	7.0	5.0	4.0	3.0	1.0	4.0	3.0	7.0	6.0
14	18.0	17.0	7.0	7.0	5.0	4.0	2.0	1.0	4.0	3.0	8.0	7.0
15	19.0	17.0	9.0	7.0	4.0	2.0	3.0	2.0	3.0	3.0	8.0	7.0
16	19.0	17.0	9.0	8.0	3.0	2.0	4.0	3.0	4.0	3.0	9.0	7.0
17	20.0	18.0	9.0	8.0	3.0	2.0	5.0	3.0	4.0	4.0	10.0	8.0
18	20.0	19.0	9.0	8.0	4.0	3.0	4.0	2.0	4.0	4.0	10.0	8.0
19	20.0	18.0	8.0	7.0	5.0	3.0	5.0	4.0	5.0	4.0	11.0	8.0
20	18.0	16.0	7.0	6.0	5.0	4.0	6.0	5.0	6.0	3.0	11.0	9.0
21	16.0	15.0	6.0	5.0	5.0	4.0	5.0	4.0	6.0	4.0	11.0	8.0
22	16.0	14.0	6.0	5.0	5.0	4.0	5.0	5.0	6.0	5.0	9.0	8.0
23	15.0	14.0	7.0	5.0	4.0	3.0	6.0	5.0	7.0	6.0	11.0	8.0
24	15.0	14.0	8.0	7.0	3.0	2.0	6.0	6.0	6.0	6.0	11.0	8.0
25	15.0	13.0	7.0	6.0	2.0	2.0	6.0	4.0	6.0	6.0	8.0	8.0
26	13.0	12.0	7.0	6.0	2.0	2.0	4.0	3.0	6.0	6.0	8.0	5.0
27	12.0	12.0	8.0	7.0	3.0	2.0	3.0	2.0	6.0	5.0	7.0	5.0
28	12.0	11.0	8.0	7.0	5.0	2.0	4.0	2.0	5.0	4.0	7.0	5.0
29	12.0	10.0	8.0	7.0	3.0	2.0	4.0	3.0	--	--	7.0	6.0
30	11.0	11.0	7.0	6.0	2.0	2.0	6.0	4.0	--	--	6.0	6.0
31	--	10.0	--	--	3.0	2.0	5.0	4.0	--	--	6.0	5.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	6.0	16.0	13.0	--	--	--	--	23.0	22.0	27.0	26.0
2	7.0	6.0	18.0	14.0	--	--	--	--	23.0	22.0	26.0	25.0
3	9.0	6.0	--	--	--	--	--	--	23.0	21.0	26.0	24.0
4	10.0	8.0	--	--	--	--	--	--	22.0	21.0	26.0	24.0
5	11.0	10.0	--	--	--	--	--	--	23.0	20.0	26.0	25.0
6	10.0	10.0	--	--	--	--	--	--	22.0	22.0	25.0	24.0
7	11.0	9.0	--	--	--	--	--	--	23.0	21.0	25.0	24.0
8	12.0	10.0	20.0	18.0	--	--	--	--	23.0	22.0	24.0	23.0
9	14.0	12.0	18.0	17.0	--	--	--	--	23.0	21.0	23.0	20.0
10	14.0	13.0	18.0	14.0	--	--	--	--	22.0	20.0	20.0	19.0
11	13.0	12.0	14.0	12.0	--	--	--	--	--	20.0	20.0	18.0
12	13.0	11.0	15.0	13.0	--	--	--	--	24.0	--	20.0	18.0
13	13.0	11.0	17.0	13.0	--	--	--	--	24.0	22.0	21.0	19.0
14	14.0	12.0	18.0	16.0	--	--	--	--	25.0	23.0	22.0	20.0
15	15.0	14.0	20.0	18.0	--	--	--	--	26.0	24.0	22.0	20.0
16	16.0	14.0	20.0	18.0	--	--	--	--	26.0	25.0	21.0	21.0
17	17.0	15.0	20.0	18.0	--	--	--	--	25.0	24.0	21.0	19.0
18	17.0	12.0	18.0	16.0	--	--	--	--	26.0	24.0	21.0	19.0
19	12.0	10.0	17.0	16.0	--	--	--	--	26.0	25.0	19.0	18.0
20	12.0	9.0	18.0	17.0	--	--	--	--	26.0	24.0	19.0	18.0
21	12.0	11.0	19.0	17.0	--	--	--	--	24.0	23.0	21.0	18.0
22	12.0	11.0	18.0	16.0	--	--	--	--	24.0	22.0	21.0	19.0
23	12.0	9.0	17.0	16.0	--	--	24.0	23.0	24.0	23.0	22.0	20.0
24	12.0	9.0	18.0	16.0	--	--	24.0	23.0	26.0	23.0	23.0	21.0
25	13.0	10.0	17.0	16.0	--	--	24.0	22.0	26.0	25.0	22.0	21.0
26	16.0	12.0	--	17.0	--	--	22.0	21.0	26.0	25.0	21.0	19.0
27	19.0	14.0	17.0	16.0	--	--	21.0	20.0	25.0	24.0	20.0	18.0
28	15.0	14.0	--	--	--	--	22.0	21.0	25.0	24.0	19.0	18.0
29	14.0	12.0	--	--	--	--	22.0	21.0	26.0	24.0	18.0	17.0
30	14.0	12.0	--	--	--	--	22.0	21.0	27.0	25.0	19.0	18.0
31	--	--	--	--	--	--	22.0	21.0	27.0	26.0	--	--

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	160	12	5.2	324	45	39	1660	52	233
2	163	32	14	339	42	38	1850	200	999
3	200	72	39	331	30	27	1640	92	407
4	277	120	90	313	16	14	3080	534	5520
5	250	75	51	312	28	24	2400	451	3060
6	254	30	21	303	30	25	1690	170	776
7	292	22	17	368	34	34	1360	135	496
8	261	25	18	310	27	23	1230	97	322
9	198	22	12	271	20	15	1140	37	114
10	199	51	27	243	13	8.5	1000	60	162
11	201	22	12	236	12	7.6	815	83	183
12	166	9	4.0	294	21	17	795	90	193
13	153	13	5.4	363	23	23	1490	295	1220
14	134	8	2.9	293	18	14	1280	233	805
15	148	8	3.2	658	813	2110	1080	157	458
16	147	9	3.6	2350	1520	9640	908	98	240
17	143	8	3.1	1750	870	4110	905	57	139
18	150	23	9.3	1460	485	1910	896	49	119
19	531	135	195	1310	158	559	957	40	103
20	257	58	40	1250	87	294	1090	42	124
21	203	13	7.1	1240	77	258	879	55	131
22	200	12	6.5	1300	91	319	876	82	219
23	205	21	12	1190	68	218	1840	358	1780
24	202	20	11	1350	120	437	1220	240	791
25	304	108	117	1210	82	268	900	156	379
26	437	219	276	1090	64	188	748	52	105
27	272	76	56	995	56	150	1940	388	4530
28	228	30	18	1990	839	8090	9890	1180	31500
29	384	96	100	3140	1170	11600	6500	353	6590
30	346	51	48	1980	73	390	4290	109	1260
31	327	64	57	--	--	--	3470	57	534
TOTAL	7392	--	1281.3	28563	--	40850.1	59819	--	63492

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	2680	83	601	3370	367	3340	587	99	157
2	1920	133	689	2890	155	1210	565	78	119
3	1580	148	631	3070	256	2120	533	63	91
4	1280	144	498	2690	140	1020	507	89	122
5	990	133	356	2060	164	912	455	68	84
6	808	66	144	1600	137	592	443	90	108
7	767	72	149	1380	138	514	433	70	82
8	672	97	176	1230	108	359	417	29	33
9	607	40	66	1170	68	215	400	47	51
10	555	31	46	1020	58	160	389	64	67
11	487	48	63	934	78	197	403	65	71
12	451	57	69	905	54	132	386	60	63
13	436	48	57	815	41	90	372	45	45
14	427	36	42	692	63	118	391	51	54
15	409	54	60	616	82	136	378	57	58
16	388	42	44	595	74	119	380	70	72
17	431	37	45	584	70	110	390	52	55
18	4440	739	9790	585	77	122	412	69	77
19	2940	441	3500	547	67	99	428	94	109
20	2120	183	1050	526	77	109	442	85	101
21	1880	142	721	487	105	138	731	546	1120
22	2040	175	964	521	100	141	614	84	139
23	2080	175	983	583	124	195	545	106	156
24	1970	69	367	622	127	213	804	363	1080
25	1650	42	187	632	59	101	1420	420	1610
26	1210	40	131	649	47	82	1580	340	1450
27	1040	90	253	634	42	72	1420	92	353
28	963	90	234	602	68	111	1320	57	203
29	1720	308	1480	--	--	--	1490	94	378
30	4620	782	9890	--	--	--	1430	53	205
31	5150	525	7300	--	--	--	1220	33	109
TOTAL	48711	--	40586	32009	--	12727	21285	--	8422

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	1060	45	129	803	76	165	387	35	37
2	2120	1150	8200	715	48	93	736	196	433
3	1830	630	3110	616	86	143	1000	323	942
4	1550	160	670	536	64	93	591	69	110
5	4990	1820	32200	477	31	40	483	174	227
6	5830	758	11900	474	37	47	487	102	134
7	3760	437	4440	482	66	96	442	104	124
8	2850	310	2390	1440	1770	10700	385	50	52
9	2340	282	1780	1410	970	4550	359	43	42
10	3230	490	4270	1050	230	652	329	30	27
11	2320	263	1650	2290	483	3170	293	13	10
12	1700	157	721	1430	151	583	266	45	32
13	1450	135	529	1170	64	202	283	47	36
14	1350	164	598	1040	62	174	278	85	64
15	1280	119	411	963	63	164	340	119	109
16	1210	102	333	855	62	143	357	82	79
17	1030	122	339	862	91	212	298	33	27
18	1470	446	2280	3950	1230	13500	263	13	9.2
19	3860	902	9400	9130	1380	34000	252	28	19
20	1860	390	1960	3790	720	7370	355	158	159
21	1470	198	786	2460	324	2150	252	31	21
22	1570	80	339	1890	203	1040	212	33	19
23	2090	242	1940	1730	169	789	360	185	240
24	2670	312	2250	1480	82	328	404	103	121
25	1670	173	780	1250	40	135	294	27	21
26	1400	65	246	1020	72	198	270	32	23
27	1280	38	131	837	154	348	240	22	14
28	1180	42	134	696	135	254	210	32	18
29	1130	33	101	574	92	143	170	32	15
30	941	47	119	557	90	135	375	363	1200
31	--	--	--	418	70	79	--	--	--
TOTAL	62491	--	94136	46395	--	81696	10971	--	4364.2

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	LOAD (TONS)
1	1060	1130	3230	350	34	32	102	5	1.4
2	563	342	520	290	31	24	111	9	2.7
3	338	172	157	280	27	20	274	73	64
4	468	211	659	260	32	22	171	42	19
5	6890	2500	47000	240	31	20	153	27	11
6	3950	875	9330	240	72	47	158	13	5.5
7	2320	550	3450	200	45	24	143	18	6.9
8	1590	277	1190	240	35	23	148	28	11
9	1270	133	456	190	33	17	185	25	12
10	1150	127	394	160	32	14	201	144	84
11	1040	102	286	170	26	12	153	45	19
12	973	95	250	160	18	7.8	148	27	11
13	775	79	165	150	20	8.1	141	11	4.2
14	650	63	111	140	21	7.9	139	10	3.8
15	556	53	80	110	38	11	129	36	13
16	454	45	55	110	38	11	153	25	10
17	411	40	44	110	19	5.6	831	398	1100
18	385	108	112	120	22	7.1	531	364	584
19	425	141	162	370	134	134	273	118	87
20	5470	825	22500	250	101	68	203	56	31
21	4780	678	9900	220	52	31	174	31	15
22	1500	290	1170	157	34	14	164	25	11
23	1030	146	406	165	25	11	178	29	14
24	575	123	191	149	25	10	252	72	49
25	690	112	209	138	27	10	228	29	18
26	490	110	146	160	27	12	178	26	12
27	530	98	140	147	8	3.2	186	28	14
28	620	65	109	133	8	2.9	225	27	16
29	560	33	50	134	10	3.6	148	29	12
30	490	29	38	131	16	5.7	154	22	9.1
31	410	31	34	120	7	2.3	--	--	--
TOTAL	42413	--	102544	5794	--	621.2	6234	--	2250.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 372077
TOTAL LOAD FOR YEAR (TONS) 452970.4

4-2080. CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

(METHODS OF ANALYSIS: B, BOTTOM WITHORAWAL TUBE; C, CHEMICALLY OISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

DATE	TIME	WATER TEMP-ERA-TURE (C)	OISCHARGE (CFS)	CONCEN-TRATION (MG/L)	SUSPENOED SEDIMENT OISCHARGE (TONS/OAY)	PARTICLE SIZE PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INOICATED .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	METHOD OF ANALY-SIS
NOV 15, 1968	1800	9.0	924	1470	3670	32	43	56	70	86	91	95	100	--	--	--	SBWC
DEC 28.....	1520		11200	1020	30800	40	53	69	81	90	93	95	100	--	--	--	SBWC
DEC 28.....	1520		11200	1020	30800	29	40	57	77	91	92	94	100	--	--	--	SBN
APR 5, 1969	1500	10.0	7100	3100	59400	46	62	80	93	98	99	100	--	--	--	--	SBWC
MAY 19.....	1350		10000	1220	32900	35	47	62	76	83	88	91	93	97	100	--	SBWC

4-2085.05. CUYAHOGA RIVER AT DUPONT INTAKE IN CLEVELAND, OHIO

LOCATION.--Lat 41°28'39", long 81°40'13", Cuyahoga County, at Dupont Products Division water intake on east side of turning basin at station 722, 5.1 miles upstream from mouth, in Cleveland.
DRAINAGE AREA.--794 sq mi.
PERIOD OF RECORD.--Chemical analyses: October 1964 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,750 micromhos Mar. 14; minimum, 290 micromhos July 20, 21.
EXTREMES, 1964-69.--Specific conductance: Maximum, 2,110 micromhos Jan. 20, 1968; minimum, 290 micromhos July 20, 21, 1969.
REMARKS.--Continuous conductance recorder operated since October 1964 and is located in brick building at edge of turning basin. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)
OCT.												
16...	1230	80	0	216	215	2.2	47	812	290	224	1380	7.0
30...	1515	144	0	154	140	1.7	21	604	272	154	1080	6.6
NOV.												
12...	1400	176	0	173	150	2.2	1.8	650	282	138	1170	6.8
19...	1040	164	0	121	74	1.1	1.4	430	252	117	764	6.8
DEC.												
11...	1415	96	0	133	147	1.6	19	580	235	157	966	6.6
31...	1300	64	0	74	74	.5	13	322	145	92	538	7.6
JAN.												
08...	0930	104	0	141	155	1.5	23	596	246	161	1030	6.8
22...	1115	80	0	110	75	.7	16	398	206	141	649	7.4
FEB.												
05...	1400	62	0	101	84	1.1	13	406	178	127	635	6.6
19...	1130	124	0	169	148	2.1	15	638	280	178	1080	6.8
MAR.												
12...	1530	174	0	179	222	2.9	.7	786	302	159	1390	7.1
26...	1400	88	0	136	128	.9	16	540	246	174	898	6.7
APR.												
02...	1130	82	0	133	118	1.1	18	522	220	153	838	6.9
09...	1130	72	0	89	54	.8	12	304	178	119	516	6.7
MAY												
07...	1145	110	0	173	144	2.2	25	662	286	196	1080	6.5
21...	1030	64	0	117	66	1.6	13	422	192	139	614	6.4
JUNE												
04...	1315	64	0	179	99	1.6	23	530	260	207	892	6.2
18...	1330	112	0	176	154	1.3	7.0	632	288	196	1040	7.6
JULY												
09...	1030	116	0	90	72	.8	18	406	198	103	659	6.5
30...	1415	76	0	150	116	1.5	33	552	238	176	918	7.0
AUG.												
06...	1300	68	0	175	168	2.4	53	680	278	222	1100	6.7
27...	1500	152	0	197	212	3.0	43	764	284	159	1360	6.5
SEPT.												
11...	1600	44	0	180	240	3.0	67	792	282	246	1410	5.7
17...	1415	60	0	242	101	1.7	28	632	320	271	977	6.5

4-2085.05. CUYAHOGA RIVER AT DUPONT INTAKE IN CLEVELAND, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1380	1190	1280	1150	700	600	580	450	---	---	1070	990
2	1250	1200	1280	1160	740	630	---	---	---	---	1000	940
3	1270	1200	1300	1180	690	620	---	---	---	---	1040	970
4	1370	1050	1220	1120	700	580	---	---	---	---	1090	950
5	1110	980	1120	1010	---	---	---	---	740	620	---	---
6	1130	1010	1100	1040	---	---	760	740	710	670	1110	1030
7	1130	980	1210	1050	720	660	950	730	860	700	1130	1090
8	1120	1000	1280	1180	850	720	---	---	840	780	---	---
9	1280	1100	1210	1170	870	770	---	---	950	800	---	---
10	1310	1170	1250	1220	920	860	---	---	1180	920	1150	1000
11	1170	1120	1270	1210	990	890	---	---	1190	960	1350	1130
12	1300	1150	1210	1080	990	950	1120	---	980	940	1410	1310
13	1360	1190	1170	970	1090	970	1070	970	1010	940	1560	1410
14	1290	1250	---	---	970	780	1000	960	1080	970	1750	1520
15	1360	1210	---	---	870	780	1120	1000	1110	1050	1640	1460
16	1430	1330	---	---	850	820	1100	970	1100	1060	1480	1330
17	1410	1330	---	---	1000	830	1240	---	1090	1000	1340	1260
18	1400	1320	810	700	1070	910	990	500	1100	1040	1300	1200
19	1400	860	840	720	950	870	720	500	1170	1020	1240	1160
20	1190	940	950	790	940	850	630	580	1200	1140	1330	1190
21	1280	940	1050	950	900	850	---	---	1190	1100	1280	1080
22	1100	950	1160	1000	950	890	---	---	1140	1040	1120	1080
23	1270	1100	---	850	930	740	---	---	1190	1080	1130	1030
24	1510	1270	---	---	750	700	---	---	1190	1050	1100	1000
25	1520	1020	---	---	840	750	---	---	1060	980	1020	900
26	1110	990	---	---	1050	830	---	---	1100	1000	1040	900
27	1090	970	---	---	1310	970	---	---	1050	980	1120	970
28	1150	1090	850	580	970	370	---	---	1080	980	1120	860
29	1140	1060	---	---	460	380	---	---	---	---	880	760
30	1130	1070	680	600	530	460	---	---	---	---	860	760
31	1160	1120	---	---	560	500	---	---	---	---	830	760

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	860	730	1010	800	900	870	950	650	1160	1030	1440	1350
2	900	780	1060	890	---	---	850	750	1140	1020	1350	1270
3	790	---	950	840	---	---	890	---	1110	1050	1350	1200
4	750	690	1040	900	1020	810	---	---	1280	1110	1310	1200
5	740	600	1060	940	1010	890	---	---	1400	1160	1300	1200
6	610	400	1090	970	1050	950	---	---	1190	1080	1280	1130
7	590	500	---	---	1090	990	---	---	1180	1070	1140	1050
8	500	440	1060	550	1020	980	---	---	1180	1080	1170	910
9	600	490	830	440	980	920	---	---	1200	1060	1100	930
10	570	480	870	730	1120	940	850	680	1720	1070	1310	1070
11	570	480	850	510	1090	1000	---	---	1530	1220	1440	1280
12	680	560	810	520	1080	1030	---	---	1550	1230	1480	1400
13	680	610	800	730	1290	1080	---	---	1260	1160	1500	1420
14	700	600	860	720	1310	1250	940	780	1350	1170	1560	1470
15	730	640	910	770	1270	890	---	---	1450	1210	1550	1470
16	720	680	940	820	970	810	---	---	1480	1360	1560	1470
17	810	710	870	810	1120	950	---	---	1370	1290	1560	840
18	900	700	880	430	1100	930	920	830	1310	1230	1170	870
19	700	470	580	330	1170	1060	960	770	1340	1230	1120	1040
20	640	490	590	410	1060	850	880	290	1360	1190	1180	1060
21	740	620	750	560	---	---	870	290	1190	1090	1270	1160
22	800	600	860	600	---	---	710	610	1230	1140	1380	1240
23	810	630	850	670	---	---	800	630	1250	1130	1410	1280
24	650	530	810	680	---	---	920	750	1320	1200	1300	1170
25	720	570	810	710	---	---	930	650	1430	1300	1370	1160
26	750	640	860	660	1370	1280	910	770	1480	1330	1430	1370
27	720	690	850	690	1370	1220	900	750	1380	1320	1500	1420
28	760	700	920	800	1240	1090	1000	790	1420	1320	1450	1150
29	830	670	910	830	1170	1110	870	810	1400	1330	1270	1140
30	860	790	880	830	1250	650	1080	870	1360	1300	1360	1260
31	---	---	900	850	---	---	1150	930	1400	1320	---	---

4-2085.06. CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OHIO

LOCATION.--Lat 41°29'17", long 81°41'07", Cuyahoga County, at bridge on West Third Street in Cleveland, 3 miles upstream from mouth, 2.4 miles upstream from previous station at Center Street, and 1.2 miles downstream from turning basin. Monitor located in small building on left bank just above bridge.
DRAINAGE AREA.--798 sq mi.
PERIOD OF RECORD.--Chemical analyses: November 1966 to September 1969.
Water temperatures: November 1966 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 1,700 micromhos Mar. 16; minimum, 420 micromhos Jan. 31.
pH: Maximum, 9.3 Sept. 14; minimum, 4.3 May 16.
Water temperatures: Maximum, 33°C Aug. 15, 16; minimum, 1°C Jan. 1.
EXTREMES, 1966-69.--Specific conductance (1967-69): Maximum, 2,030 micromhos Jan. 21, 1968; minimum, 420 micromhos Feb. 2, 6, 1968, Jan. 31, 1969.
pH (1968-69): Maximum, 9.3 Sept. 14, 1969; minimum, 4.3 May 16, 1969.
Dissolved oxygen (1967-68): Maximum, 10.8 mg/l Feb. 18, 1968; minimum, 0.0 mg/l on many days during October and November 1967, April to September 1968.
Water temperatures: Maximum, 35°C July 24, 1967; minimum, 1°C Jan. 1, 1969.
REMARKS.--Continuous water quality recorder operated since November 1966. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	TOTAL PHOSPHORUS (PO4) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.												
16...	0900	222	0	178	200	1.8	8.1	1.0	750	280	98	1310
23...	0930	206	0	148	142	2.3	.2	.82	614	266	97	1090
NOV.												
07...	1045	96	0	174	148	2.1	25	.62	680	300	221	1120
19...	1120	110	0	123	70	.9	8.7	.80	444	242	152	692
DEC.												
18...	0900	88	0	142	170	1.5	12	.36	624	256	184	1010
26...	0900	88	0	119	111	1.4	13	.64	534	258	186	836
JAN.												
03...	0900	70	0	94	66	1.2	17	.76	356	173	116	575
15...	0830	114	0	156	146	1.6	12	.19	622	265	171	1060
FEB.												
05...	0900	70	0	92	73	1.0	14	.53	356	176	119	604
20...	0830	92	0	165	169	1.8	30	.43	708	278	202	1100
MAR.												
14...	0900	76	0	176	275	2.9	46	.74	906	294	232	1500
26...	1140	92	0	135	115	1.0	18	.43	536	244	169	872
APR.												
02...	1000	106	0	116	120	1.2	10	.26	530	226	139	850
09...	1030	74	0	85	55	.8	15	.34	322	188	128	524
MAY												
06...	0830	102	0	154	125	1.6	36	1.1	580	282	198	958
22...	1105	108	0	100	61	.9	16	.57	364	202	114	615
JUNE												
02...	0900	98	0	131	85	1.0	28	.34	524	216	136	808
11...	0900	120	0	185	134	1.2	38	.41	696	320	222	1100
JULY												
09...	0900	134	0	88	66	.8	13	.78	436	200	90	650
15...	1550	114	0	104	103	.8	23	.74	524	207	113	805
AUG.												
05...	1100	132	0	161	144	1.8	39	.45	686	292	184	1120
27...	0800	220	0	150	226	2.5	2.6	.42	798	238	108	1410
SEPT.												
02...	0830	156	0	268	187	2.9	1.1	.26	766	150	22	1310
18...	0900	132	0	180	110	1.4	.5	.34	586	142	34	945

4-2085.06. CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1280	1180	1150	1020	690	650	570	520	500	460	1190	1110
2	1220	1180	1180	1150	690	670	560	520	500	440	1120	1060
3	1240	1200	1220	1140	700	660	620	560	510	450	1100	1040
4	1250	1140	1240	1190	700	490	680	620	580	510	1100	1040
5	1170	1110	1200	1150	620	490	730	680	610	550	1200	1090
6	1110	1060	1160	1100	650	620	770	730	640	600	1230	1190
7	1140	1070	1150	1040	690	650	890	770	700	620	1200	1180
8	1120	1010	1070	1040	730	690	1120	890	770	700	1200	1150
9	1110	1060	---	---	1020	730	1230	1110	780	750	1220	1160
10	1230	1110	---	---	890	810	1320	1210	990	780	1220	1180
11	1270	1200	---	---	1020	880	1370	1280	1110	970	1230	1120
12	1220	1150	---	---	970	900	1330	1170	1000	950	1400	1170
13	1330	1200	---	---	1020	890	1170	980	980	930	1480	1330
14	1380	1320	---	---	990	800	1030	970	1050	960	1580	1460
15	1360	1280	---	---	880	820	1110	990	1130	990	1680	1580
16	1380	1290	---	---	870	830	1260	1090	1150	1070	1700	1630
17	1400	1350	---	---	940	850	1280	1220	1100	1000	1670	1520
18	1370	1320	---	---	1030	940	1420	780	1050	1000	1620	1330
19	1380	1050	700	680	970	870	780	690	1060	990	1330	1150
20	1090	990	830	700	930	840	720	680	1100	1060	1270	1140
21	1240	1090	930	830	860	830	680	640	1160	1090	1290	1230
22	1230	1080	960	900	940	850	650	630	1110	1050	1240	1140
23	1160	1060	910	780	900	760	660	630	1120	1080	1170	1060
24	1350	1160	790	720	770	710	680	650	1180	1090	1130	1030
25	1490	1310	740	680	790	730	700	680	1090	1040	1030	960
26	1320	930	740	700	1000	790	730	690	1070	1030	960	850
27	1000	930	810	740	1080	910	760	730	1120	1060	960	960
28	1110	990	850	630	910	560	770	750	1180	1060	1000	880
29	1140	1110	630	550	570	530	750	720	---	---	960	900
30	1120	1050	650	570	550	520	740	540	---	---	830	780
31	1100	1020	---	---	570	540	540	420	---	---	820	730

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	840	790	840	830	870	750	800	660	1000	960	1390	1330
2	900	790	930	840	890	850	810	760	970	910	1400	1180
3	830	730	930	840	850	740	890	810	950	910	1350	1290
4	770	710	950	850	850	760	990	880	1130	930	1290	1230
5	770	620	970	950	880	830	920	490	1160	1130	1240	1200
6	250	530	960	930	900	820	570	510	1150	1090	1220	1070
7	---	---	990	920	980	900	600	570	1150	1090	1110	1060
8	---	---	1060	910	1020	960	640	600	1090	1080	1070	1050
9	---	---	910	600	1020	1000	730	640	1210	1140	1090	1000
10	560	520	790	670	1040	990	750	690	1180	1010	1230	1070
11	560	490	820	620	1100	1000	770	690	1320	1180	1360	1230
12	650	560	620	590	1040	940	750	710	1390	1320	1420	1360
13	680	620	760	620	1020	950	770	730	1390	1210	1430	1390
14	690	610	760	730	1200	1020	780	750	1230	1170	1450	1410
15	740	660	790	760	1220	1150	810	780	1250	1190	1460	1420
16	750	690	800	750	1150	980	820	770	1310	1250	1500	1450
17	730	710	790	780	1040	980	850	810	1310	1250	1500	940
18	810	730	810	590	1090	1040	850	770	1250	1200	1080	920
19	---	---	590	450	1110	1070	800	730	1210	1170	1130	1070
20	---	---	530	450	1100	1020	810	460	1230	1170	1070	1050
21	---	---	620	520	1020	950	500	460	1190	1140	1160	1070
22	---	---	760	600	1080	990	640	500	1160	1050	1200	1150
23	720	690	760	680	1100	1070	700	620	1220	1160	1230	1180
24	710	550	760	670	1080	1030	780	700	1250	1160	1250	1180
25	680	580	790	690	1030	950	870	720	1350	1250	1250	1170
26	710	650	740	700	1100	940	820	700	1430	1350	1370	1230
27	710	680	770	700	1150	1090	870	790	1440	1320	1400	1360
28	730	710	850	760	1140	1010	800	780	1370	1300	1410	1290
29	780	730	850	750	1020	960	830	790	1390	1330	1290	1140
30	850	780	790	630	1000	800	900	830	1370	1330	1230	1150
31	---	---	760	690	---	---	970	890	1400	1340	---	---

4-2085.06. CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.2	7.1	7.1	6.8	7.3	6.8	8.1	7.1	7.6	7.1	7.5	7.0
2	7.1	7.0	7.0	6.9	7.1	6.8	8.5	7.4	7.5	7.1	7.5	7.0
3	7.0	6.9	6.9	6.8	7.0	6.7	8.3	7.5	7.6	6.9	7.4	6.7
4	6.9	6.8	7.0	6.9	7.1	6.9	7.8	7.2	7.7	6.4	8.5	6.7
5	7.1	6.9	7.0	6.9	7.1	6.9	8.0	7.5	7.5	6.8	8.0	6.5
6	7.1	7.0	7.0	6.9	7.1	6.8	7.9	7.2	7.5	7.2	8.0	6.3
7	7.3	7.0	6.9	6.8	7.1	6.9	7.7	7.4	7.6	7.1	7.4	7.0
8	7.4	7.1	6.8	6.7	7.3	7.0	7.9	7.5	7.7	7.2	7.2	7.0
9	7.1	6.9	---	---	7.4	7.1	8.1	7.5	7.4	7.1	7.3	7.1
10	7.0	6.8	---	---	7.3	7.0	7.8	7.4	7.6	7.3	7.4	7.2
11	7.0	6.9	---	---	7.3	7.0	7.6	7.3	7.4	6.6	7.6	7.2
12	7.1	7.0	---	---	7.2	6.9	7.7	7.0	7.4	7.1	7.4	6.8
13	7.2	7.0	---	---	7.0	6.1	8.1	7.4	7.4	7.2	7.4	6.9
14	7.3	7.2	---	---	7.0	6.7	---	---	7.5	7.1	7.7	7.1
15	7.3	7.2	---	---	7.5	6.9	---	---	7.6	7.0	7.6	7.2
16	7.4	7.3	---	---	7.6	7.0	---	---	7.5	7.1	7.4	7.1
17	7.6	7.4	---	---	7.3	6.7	---	---	7.2	6.5	7.3	7.1
18	7.6	7.5	---	---	7.3	6.5	7.7	7.1	7.2	6.7	7.4	7.0
19	7.3	7.4	7.1	7.0	6.8	6.6	7.8	7.4	7.0	6.6	7.4	7.1
20	7.9	7.6	7.1	7.0	6.8	6.6	7.8	7.4	7.6	6.9	7.3	7.2
21	7.7	7.6	7.2	7.0	6.8	6.5	7.5	6.9	7.5	7.1	7.6	7.3
22	7.7	7.6	7.1	6.8	6.9	6.7	7.7	7.1	7.4	7.0	7.5	7.1
23	7.6	7.5	6.8	6.4	7.8	6.7	7.2	6.7	7.2	7.0	7.3	7.0
24	7.5	7.4	7.0	6.8	8.0	6.8	7.3	6.9	7.2	7.0	7.4	6.4
25	7.4	7.4	6.8	6.7	7.7	6.8	7.4	6.9	7.3	7.1	7.4	6.9
26	7.5	7.4	6.8	6.7	7.3	6.9	7.8	7.1	7.4	7.0	7.5	7.3
27	7.4	6.8	6.9	6.6	7.4	6.8	7.8	7.0	7.2	6.6	7.5	7.2
28	7.5	7.1	7.0	6.7	7.3	6.7	8.0	7.4	7.4	7.1	7.4	6.9
29	7.4	7.2	7.1	6.9	7.3	6.9	7.9	7.5	---	---	7.3	7.3
30	7.3	7.2	7.0	6.8	7.5	7.0	7.7	7.3	---	---	7.4	7.2
31	7.2	6.9	---	---	7.3	7.0	7.6	7.2	---	---	7.6	7.1

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.4	7.0	7.6	7.4	7.3	6.9	7.3	7.0	7.2	6.8	7.0	6.9
2	7.2	6.7	7.5	6.8	7.1	6.9	7.2	6.9	7.2	7.0	7.1	7.0
3	7.3	6.9	7.5	7.2	7.2	7.1	7.8	7.0	7.3	7.2	7.0	6.8
4	7.2	6.9	7.5	7.4	7.1	6.7	7.8	7.5	7.3	7.2	6.8	5.9
5	7.2	7.0	7.5	7.4	7.0	6.7	7.7	7.0	7.5	7.2	6.8	6.0
6	7.3	7.1	7.7	7.4	7.1	6.9	7.5	6.8	7.2	7.2	6.8	4.7
7	---	---	7.7	7.5	7.0	6.9	7.2	6.9	7.3	7.2	6.7	6.1
8	---	---	7.6	7.2	7.1	7.0	7.3	7.0	7.3	7.2	6.7	6.4
9	---	---	7.8	7.5	7.1	6.7	7.9	6.9	7.3	7.2	6.7	6.4
10	7.8	7.5	7.6	7.4	7.1	6.7	7.9	7.3	7.3	7.1	6.8	6.5
11	7.8	7.5	7.5	7.3	7.2	7.0	7.8	6.6	7.2	7.1	6.8	6.5
12	7.7	7.6	7.4	7.2	7.2	6.6	7.6	7.2	7.3	7.2	7.1	6.7
13	7.8	7.5	7.7	6.8	7.2	6.7	7.4	6.8	7.3	7.2	8.1	6.7
14	7.8	7.5	7.2	7.0	7.2	6.9	7.3	7.0	7.3	7.2	9.3	6.6
15	7.5	7.4	7.0	6.7	7.2	6.9	7.2	6.8	7.2	7.0	8.9	6.8
16	7.6	7.4	6.8	4.3	7.2	7.0	7.3	7.0	7.2	7.0	7.4	6.7
17	7.6	7.4	6.7	6.1	7.2	6.5	7.8	7.2	7.2	7.1	7.3	6.9
18	7.5	6.9	6.8	6.6	7.3	6.7	7.8	7.0	7.3	7.0	7.2	7.1
19	---	---	6.9	6.6	7.2	6.5	7.3	7.1	7.3	7.2	7.1	6.8
20	---	---	6.8	6.5	7.2	7.1	8.0	7.2	7.2	7.1	6.8	6.7
21	---	---	6.9	6.6	7.3	7.1	8.0	7.3	7.2	7.0	6.9	6.7
22	---	---	6.8	6.6	7.2	6.9	7.5	6.4	7.1	6.7	7.0	6.7
23	7.8	7.4	6.8	6.7	7.2	7.1	7.0	6.0	7.1	6.4	7.0	6,1
24	8.0	7.7	6.8	6.4	7.2	7.1	6.5	6.0	7.3	5.8	6.9	6.8
25	7.9	7.3	6.9	6.6	7.3	7.2	7.2	6.3	7.3	7.0	6.9	6.8
26	7.7	7.4	7.0	6.8	7.2	7.0	7.5	7.0	7.3	7.2	6.9	6.6
27	7.7	7.5	7.0	6.7	7.2	7.1	7.4	7.2	7.2	7.0	6.9	6.8
28	7.6	7.5	7.0	6.7	7.4	7.2	7.5	7.4	7.0	6.7	7.0	6.8
29	7.6	7.5	6.9	6.4	7.3	6.7	7.9	7.2	7.0	6.8	7.0	6.9
30	7.6	7.5	6.8	6.5	7.7	7.1	7.3	7.2	7.0	7.0	7.1	6.8
31	---	---	6.9	6.7	---	---	7.3	7.2	7.0	6.9	---	---

4-2085.06. CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	0.0	0.0	15.0	13.3	---	---	10.1	9.5	---	---
2	0.0	0.0	0.0	0.0	15.0	13.7	---	---	10.4	9.6	---	---
3	0.0	0.0	0.0	0.0	15.0	13.5	---	---	10.3	9.8	---	---
4	0.0	0.0	0.0	0.0	---	---	---	---	10.9	10.3	---	---
5	0.0	0.0	0.0	0.0	---	---	---	---	11.0	10.4	---	---
6	0.0	0.0	0.0	0.0	---	---	---	---	11.6	8.7	---	---
7	0.0	0.0	0.1	0.0	---	---	---	---	8.7	6.0	---	---
8	0.0	0.0	0.1	0.0	---	---	---	---	6.5	5.4	---	---
9	0.0	0.0	---	---	---	---	---	---	5.5	5.4	---	---
10	0.0	0.0	---	---	---	---	---	---	5.8	5.4	---	---
11	0.0	0.0	---	---	---	---	---	---	5.9	5.5	---	---
12	0.0	0.0	---	---	---	---	---	---	5.8	5.5	---	---
13	0.0	0.0	---	---	---	---	9.3	8.4	5.9	5.5	---	---
14	0.0	0.0	---	---	---	---	8.6	7.7	5.8	5.2	---	---
15	0.0	0.0	---	---	---	---	9.3	7.3	5.4	5.1	---	---
16	0.0	0.0	---	---	---	---	7.3	4.4	5.1	4.7	---	---
17	0.0	0.0	---	---	---	---	5.3	4.9	5.9	4.2	---	---
18	0.0	0.0	---	---	---	---	10.1	4.9	4.2	2.8	---	---
19	0.0	0.0	5.9	5.2	---	---	10.6	9.6	3.1	2.5	---	---
20	0.0	0.0	7.4	5.2	---	---	13.5	10.2	---	---	---	---
21	0.0	0.0	10.8	5.7	---	---	14.9	11.1	---	---	---	---
22	0.0	0.0	---	---	---	---	11.7	10.4	---	---	---	---
23	0.0	0.0	---	---	---	---	10.8	10.2	---	---	---	---
24	0.0	0.0	12.9	10.8	---	---	10.2	7.9	---	---	---	---
25	0.0	0.0	12.8	10.9	---	---	9.4	8.0	---	---	---	---
26	0.0	0.0	13.3	11.9	---	---	9.4	9.0	---	---	7.3	6.8
27	0.0	0.0	12.2	10.6	---	---	9.3	7.7	---	---	8.0	6.9
28	0.0	0.0	12.6	9.0	---	---	9.5	8.2	---	---	7.8	7.0
29	0.0	0.0	13.9	9.2	---	---	9.9	7.8	---	---	7.3	6.7
30	0.0	0.0	14.7	13.4	---	---	10.5	9.0	---	---	7.9	6.8
31	0.0	0.0	---	---	---	---	9.7	9.3	---	---	7.9	7.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.8	6.8	2.6	1.3	0.4	0.3	0.1	0.0	0.1	0.1	---	---
2	7.1	6.1	1.4	1.1	0.4	0.3	0.1	0.0	0.1	0.1	---	---
3	7.7	6.4	1.4	1.2	0.7	0.3	0.1	0.0	0.1	0.1	---	---
4	7.5	6.6	1.3	1.2	0.5	0.4	0.1	0.0	0.1	0.1	---	---
5	6.7	4.0	1.4	1.2	0.5	0.4	0.9	0.1	0.1	0.0	---	---
6	7.5	6.1	1.5	1.2	0.5	0.4	0.8	0.3	---	---	---	---
7	---	---	1.5	1.3	0.5	0.4	0.6	0.3	---	---	---	---
8	---	---	1.5	1.2	0.5	0.4	0.7	0.1	---	---	---	---
9	---	---	2.3	1.2	0.5	0.3	0.1	0.0	---	---	---	---
10	7.3	6.4	1.5	1.2	0.5	0.4	0.1	0.0	---	---	---	---
11	7.5	6.9	2.7	1.2	0.6	0.5	0.1	0.1	---	---	---	---
12	7.2	5.4	1.9	1.2	0.6	0.4	0.1	0.1	---	---	---	---
13	6.6	4.6	3.6	1.4	0.5	0.4	0.1	0.0	---	---	---	---
14	4.8	3.3	2.7	1.2	0.5	0.3	0.1	0.0	---	---	---	---
15	4.7	1.7	1.4	1.2	0.5	0.3	0.1	0.1	---	---	---	---
16	4.2	3.1	1.4	1.2	0.5	0.3	0.1	0.0	---	---	0.0	0.0
17	3.6	0.6	1.4	1.2	0.6	0.3	0.1	0.1	---	---	0.0	0.0
18	1.2	0.6	1.8	1.2	0.5	0.4	0.1	0.1	---	---	0.0	0.0
19	---	---	2.3	1.6	0.5	0.3	0.1	0.1	---	---	0.0	0.0
20	---	---	2.1	1.3	0.4	0.3	0.5	0.1	---	---	0.0	0.0
21	---	---	2.4	1.3	0.4	0.3	0.5	0.1	---	---	0.0	0.0
22	---	---	3.7	1.2	0.5	0.3	0.1	0.1	---	---	0.0	0.0
23	6.6	5.3	3.3	0.5	0.5	0.4	0.2	0.1	---	---	0.0	0.0
24	7.3	5.6	2.0	0.3	0.5	0.3	0.1	0.1	---	---	0.0	0.0
25	5.6	2.8	0.7	0.3	0.3	0.0	0.1	0.1	---	---	0.0	0.0
26	2.8	1.4	0.3	0.1	0.0	0.0	0.1	0.1	---	---	0.0	0.0
27	2.1	1.3	0.4	0.1	0.0	0.0	0.1	0.1	---	---	0.0	0.0
28	1.9	1.4	0.5	0.3	0.0	0.0	0.1	0.1	---	---	0.0	0.0
29	1.9	1.1	0.5	0.3	0.0	0.0	0.1	0.1	---	---	0.0	0.0
30	2.3	1.2	0.4	0.3	0.0	0.0	0.1	0.1	---	---	0.0	0.0
31	---	---	0.5	0.3	---	---	0.1	0.1	---	---	---	---

4-2085.06. CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	27.0	26.0	19.0	18.0	12.0	10.0	3.0	1.0	6.0	5.0	12.0	11.0
2	27.0	27.0	20.0	19.0	11.0	10.0	3.0	2.0	5.0	4.0	12.0	12.0
3	27.0	27.0	21.0	20.0	12.0	11.0	4.0	3.0	6.0	5.0	13.0	12.0
4	27.0	23.0	21.0	20.0	13.0	8.0	5.0	4.0	5.0	4.0	13.0	12.0
5	23.0	21.0	20.0	20.0	8.0	8.0	5.0	4.0	5.0	4.0	13.0	12.0
6	21.0	20.0	20.0	20.0	8.0	7.0	6.0	5.0	5.0	5.0	14.0	13.0
7	20.0	19.0	20.0	19.0	7.0	7.0	7.0	5.0	7.0	5.0	14.0	13.0
8	20.0	19.0	19.0	19.0	7.0	7.0	7.0	6.0	8.0	7.0	14.0	13.0
9	21.0	20.0	--	--	7.0	6.0	8.0	7.0	8.0	7.0	14.0	14.0
10	22.0	21.0	--	--	8.0	7.0	8.0	8.0	8.0	7.0	14.0	13.0
11	24.0	22.0	--	--	8.0	7.0	8.0	7.0	8.0	7.0	14.0	13.0
12	24.0	23.0	--	--	8.0	8.0	8.0	7.0	9.0	8.0	13.0	12.0
13	25.0	24.0	--	--	9.0	8.0	10.0	8.0	8.0	7.0	12.0	11.0
14	25.0	24.0	--	--	8.0	8.0	10.0	9.0	8.0	7.0	11.0	10.0
15	25.0	25.0	--	--	10.0	8.0	10.0	9.0	9.0	8.0	13.0	11.0
16	26.0	25.0	--	--	8.0	7.0	12.0	10.0	8.0	7.0	13.0	12.0
17	27.0	26.0	--	--	9.0	7.0	13.0	12.0	8.0	6.0	15.0	13.0
18	27.0	26.0	--	--	9.0	8.0	12.0	3.0	10.0	8.0	16.0	14.0
19	27.0	23.0	14.0	12.0	9.0	8.0	5.0	4.0	9.0	8.0	17.0	16.0
20	23.0	22.0	12.0	11.0	9.0	8.0	5.0	4.0	9.0	9.0	18.0	17.0
21	23.0	22.0	11.0	11.0	9.0	8.0	7.0	5.0	10.0	9.0	17.0	15.0
22	24.0	23.0	11.0	11.0	10.0	9.0	8.0	7.0	12.0	10.0	15.0	14.0
23	24.0	24.0	11.0	11.0	9.0	6.0	9.0	8.0	12.0	12.0	16.0	15.0
24	24.0	24.0	13.0	11.0	6.0	5.0	9.0	9.0	12.0	12.0	18.0	17.0
25	24.0	20.0	13.0	12.0	5.0	5.0	9.0	6.0	13.0	12.0	17.0	14.0
26	20.0	17.0	12.0	12.0	6.0	5.0	6.0	6.0	13.0	12.0	14.0	12.0
27	18.0	17.0	13.0	12.0	8.0	3.0	7.0	6.0	12.0	11.0	12.0	10.0
28	19.0	18.0	15.0	13.0	4.0	3.0	8.0	6.0	12.0	11.0	12.0	10.0
29	19.0	18.0	13.0	10.0	4.0	3.0	8.0	7.0	--	--	11.0	10.0
30	18.0	17.0	12.0	11.0	3.0	2.0	8.0	6.0	--	--	10.0	8.0
31	18.0	17.0	--	--	3.0	3.0	7.0	6.0	--	--	10.0	8.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	9.0	20.0	18.0	28.0	26.0	25.0	24.0	32.0	31.0	32.0	31.0
2	11.0	9.0	21.0	19.0	26.0	23.0	26.0	25.0	32.0	31.0	32.0	31.0
3	10.0	9.0	22.0	20.0	23.0	20.0	27.0	26.0	32.0	31.0	31.0	30.0
4	12.0	10.0	24.0	22.0	21.0	20.0	28.0	26.0	32.0	31.0	31.0	30.0
5	14.0	11.0	25.0	23.0	22.0	21.0	26.0	21.0	32.0	31.0	31.0	30.0
6	11.0	10.0	26.0	24.0	24.0	22.0	22.0	22.0	32.0	31.0	31.0	31.0
7	--	--	25.0	25.0	25.0	24.0	23.0	22.0	32.0	31.0	31.0	30.0
8	--	--	25.0	20.0	26.0	25.0	23.0	22.0	32.0	32.0	30.0	28.0
9	--	--	20.0	19.0	26.0	25.0	25.0	23.0	32.0	31.0	29.0	28.0
10	16.0	14.0	19.0	18.0	27.0	25.0	27.0	25.0	32.0	31.0	28.0	27.0
11	15.0	14.0	18.0	13.0	27.0	25.0	28.0	26.0	32.0	31.0	28.0	27.0
12	15.0	14.0	16.0	14.0	29.0	27.0	28.0	27.0	32.0	31.0	29.0	28.0
13	17.0	15.0	19.0	16.0	29.0	27.0	29.0	28.0	32.0	31.0	29.0	28.0
14	18.0	16.0	20.0	19.0	28.0	28.0	30.0	28.0	32.0	31.0	30.0	29.0
15	18.0	17.0	22.0	19.0	23.0	25.0	29.0	29.0	33.0	32.0	30.0	29.0
16	19.0	18.0	24.0	21.0	25.0	23.0	31.0	29.0	33.0	32.0	31.0	30.0
17	20.0	19.0	25.0	23.0	26.0	23.0	31.0	30.0	32.0	32.0	31.0	22.0
18	20.0	20.0	24.0	19.0	27.0	25.0	30.0	29.0	32.0	32.0	24.0	23.0
19	--	--	19.0	18.0	27.0	26.0	30.0	28.0	32.0	32.0	26.0	24.0
20	--	--	20.0	18.0	26.0	24.0	30.0	22.0	32.0	30.0	27.0	26.0
21	--	--	20.0	20.0	26.0	24.0	27.0	22.0	30.0	29.0	28.0	27.0
22	--	--	21.0	20.0	27.0	25.0	28.0	27.0	30.0	29.0	29.0	27.0
23	13.0	10.0	20.0	19.0	27.0	26.0	29.0	27.0	30.0	29.0	29.0	28.0
24	13.0	10.0	22.0	20.0	26.0	25.0	30.0	29.0	31.0	30.0	29.0	27.0
25	15.0	13.0	22.0	21.0	28.0	25.0	30.0	29.0	31.0	30.0	27.0	26.0
26	18.0	15.0	21.0	20.0	29.0	27.0	30.0	29.0	32.0	31.0	27.0	26.0
27	20.0	18.0	22.0	20.0	30.0	28.0	31.0	30.0	32.0	32.0	28.0	27.0
28	21.0	20.0	24.0	22.0	30.0	30.0	30.0	29.0	32.0	31.0	27.0	25.0
29	20.0	19.0	27.0	24.0	31.0	30.0	30.0	29.0	31.0	31.0	26.0	25.0
30	19.0	18.0	26.0	26.0	31.0	25.0	30.0	30.0	31.0	31.0	27.0	26.0
31	--	--	27.0	26.0	--	--	31.0	30.0	32.0	31.0	--	--

4-2122. GRAND RIVER AT PAINESVILLE, OHIO

LOCATION.--Lat 41°44'09", long 81°15'59", Lake County, at bridge on State Highway 535 in Painesville, 2.2 miles upstream from mouth, and 8 miles downstream from Kellogg Creek.
DRAINAGE AREA.--701 sq mi.
PERIOD OF RECORD.--Chemical analyses: March 1950 to February 1952, October 1962 to September 1969.
Water temperatures: March 1950 to February 1952, October 1962 to September 1969.
EXTREMES, 1968-69.--Water temperatures: Maximum, 33°C Aug. 24, 25, 30, 31, Sept. 1; minimum, freezing point on several days during December to February.
EXTREMES, 1950-52, 1962-69.--Specific conductance (1950-52, 1962-68): Maximum, 30,300 micromhos July 1964; minimum, 309 micromhos Dec. 8, 1950.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	HY-DROX-IDE (OH) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)
OCT.							
19...	0745	28	50	0	--	120	5900
25...	1730	113	132	0	--	70	750
NOV.							
07...	--	112	36	0	--	100	3900
19...	1330	2500	104	0	--	56	140
DEC.							
13...	1800	2280	76	0	--	52	142
20...	1440	933	0	45	6	112	1650
JAN.							
17...	1715	260	92	0	--	83	640
31...	2045	6420	40	0	--	38	48
FEB.							
06...	1110	1200	50	0	--	50	410
07...	1745	764	0	16	2	130	3900
MAR.							
07...	1610	136	0	43	1	58	585
14...	2300	76	76	0	--	100	2300
APR.							
04...	1910	2440	68	0	--	55	1200
12...	1800	1710	52	0	--	38	72
MAY							
16...	2030	354	36	0	--	77	2700
24...	2100	1120	60	0	--	42	205
JUNE							
06...	1830	182	72	0	--	60	800
27...	1920	116	92	0	--	68	1400
JULY							
04...	1820	128	116	0	--	73	1340
25...	2240	770	88	0	--	52	310
AUG.							
01...	1700	304	76	0	--	44	525
22...	1920	26	116	0	--	47	7300
SEPT.							
17...	1950	97	44	0	--	145	8800
23...	1650	54	138	0	--	110	1080

GPO 822-622 - 22

4-2122. GRAND RIVER AT PAINESVILLE, OHIO--Continued

EXTREMES, 1950-52, 1962-69--Continued
Dissolved oxygen (1967-68): Maximum, 13.3 mg/l Feb. 5, 1968; minimum, 0.0 mg/l on several days during July and August 1968.
Water temperatures: Maximum, 33°C on several days during August 1968, August and September 1969; minimum, freezing point on many days during winter period.
REMARKS.--Continuous water quality recorder operated since December 1966. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. Diamond Alkali Company and Painesville Sewage Disposal Plant are located just above station. Records of discharge are given for 04-2120.00 Grand River near Madison, Ohio (drainage area 581 sq mi).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.						
19...	.3	--	10500	5560	5520	16200
25...	.2	7.4	1750	632	524	2980
NOV.						
07...	.1	--	7090	3600	3570	10900
19...	.2	4.1	448	194	109	763
DEC.						
13...	.1	4.4	426	175	113	694
20...	.2	--	3440	1450	1360	5280
JAN.						
17...	.0	1.8	1680	562	486	2330
31...	.2	2.0	232	90	57	318
FEB.						
06...	.0	12	1070	400	359	1520
07...	.3	--	6980	3500	3460	10900
MAR.						
07...	.1	1.0	1350	330	255	2100
14...	.0	--	4320	1820	1760	6910
APR.						
04...	.3	--	2720	1150	1090	3880
12...	.4	4.6	264	98	56	433
MAY						
16...	.3	--	5850	2450	2420	8230
24...	.4	2.5	626	215	166	892
JUNE						
06...	.3	5.8	1850	750	691	2780
27...	.4	--	3300	1200	1120	4580
JULY						
04...	.3	9.3	2730	1300	1200	4260
25...	.2	5.8	846	335	263	1290
AUG.						
01...	.3	6.2	1340	554	492	2100
22...	.3	14	11300	6000	5900	17900
SEPT.						
17...	.4	6.6	14500	7520	7480	21400
23...	.2	16	2130	840	726	3770

4-2122. GRAND RIVER AT PAINESVILLE, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7000	2300	13400	6000	---	---	900	600	500	400	1900	1200
2	5100	3600	6000	1200	---	---	1100	700	700	500	1700	1100
3	7200	3700	1800	1200	---	---	1200	800	1000	600	15100	1200
4	4900	3000	16800	1500	---	---	1700	1000	1500	1000	13000	6000
5	3800	2400	16700	13200	1400	---	---	---	1500	1100	6000	1700
6	4700	1800	14000	8600	1200	800	---	---	1700	1300	2300	1300
7	20000	4500	13900	9000	1200	700	---	---	10900	1700	2300	1700
8	18000	4000	---	---	1400	900	---	---	11800	1600	2300	2000
9	18200	10400	---	---	2000	900	---	---	2000	1600	2700	2300
10	17000	7000	---	---	8000	1700	---	---	14000	1800	3000	2700
11	12600	6000	---	---	8800	---	---	---	13800	9200	3800	3000
12	23000	8000	---	---	---	---	---	---	9400	2300	5200	2600
13	21600	10400	---	---	---	---	---	---	2500	2100	9600	5000
14	20000	11400	---	---	1400	900	---	---	8100	2100	7700	4700
15	17200	8200	---	---	6400	1100	---	---	10500	4400	6400	4100
16	10800	6200	---	---	---	1100	---	---	4400	2100	5200	3400
17	8500	5700	---	---	---	1100	2300	---	17400	1900	5000	4300
18	10900	6600	---	---	---	1100	2200	1100	17100	3400	---	---
19	17600	8000	1100	760	---	1100	1600	1200	3400	2200	---	---
20	8200	2200	1300	800	---	1100	1700	1100	3000	2100	---	---
21	4200	2400	1200	800	---	1100	1800	1200	2800	2200	---	---
22	9000	2000	3800	1800	---	1100	1800	800	2300	1900	---	---
23	8000	1400	6200	1600	---	1100	1100	700	2300	1900	---	---
24	2200	1000	9400	3600	---	1100	1000	600	18500	2100	---	---
25	11700	1200	6600	800	---	1100	1000	600	16300	8800	---	---
26	11000	4000	3600	800	---	1100	1400	800	8800	1300	2900	2400
27	4000	2000	2700	2000	---	1100	8100	1000	1800	1100	3200	2900
28	3300	2000	2700	2000	9200	1600	7900	500	1900	1100	3200	1600
29	2600	2000	---	---	8000	800	5300	700	---	---	2000	1400
30	21000	1300	---	---	900	700	700	400	---	---	2200	1800
31	23200	12800	---	---	1000	400	400	300	---	---	5000	1800

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6000	1600	---	---	22000	13400	3400	2600	---	2000	---	---
2	5800	3200	---	---	19600	11000	4000	2300	---	---	---	---
3	---	---	---	---	11000	2900	4100	3000	---	---	---	---
4	---	---	---	---	5000	2800	6400	3000	---	---	---	---
5	---	---	---	---	3900	2600	---	---	---	3100	---	---
6	---	---	---	---	12800	3000	---	---	---	---	---	---
7	---	---	4400	4100	16000	7400	---	---	---	---	---	---
8	---	---	4400	3800	---	3400	---	---	---	---	---	---
9	---	---	3800	1000	10000	3400	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	1400	900	---	---	---	---	---	---	---	---
12	---	---	1200	1000	---	---	---	---	---	---	---	---
13	---	---	1600	1200	7000	3200	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	3500	2600	---	---	---	---
16	---	---	---	---	---	---	3800	2400	---	---	15200	8400
17	---	---	---	---	---	---	5600	3600	---	---	26000	15200
18	---	---	---	---	---	---	6200	4000	---	---	15900	7300
19	---	---	---	---	---	---	---	---	---	---	15200	8100
20	---	---	---	---	9000	2300	---	2300	---	---	23400	7600
21	---	---	---	---	3000	2600	2300	1200	---	---	19400	6500
22	1900	1200	---	---	6600	2700	---	1200	---	---	14000	3000
23	2000	1300	---	---	---	---	---	---	---	---	5900	3000
24	---	---	---	---	---	---	1600	1200	---	---	16800	4800
25	---	---	---	---	---	---	3000	1200	---	---	12500	3100
26	---	---	---	---	---	---	1600	1100	---	---	12500	3000
27	---	---	---	---	4800	2700	1400	800	---	---	9900	3300
28	---	---	---	---	4400	2200	2000	1000	---	---	4300	3100
29	---	---	3200	2800	4000	2000	2600	1900	---	---	13000	2800
30	---	---	3400	2900	3000	2000	---	2200	---	---	18800	8000
31	---	---	13400	3100	---	---	---	---	---	---	---	---

4-2122. GRAND RIVER AT PAINESVILLE, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	9.2	7.8	---	---
7	---	---	---	---	---	---	---	---	8.8	7.4	---	---
8	---	---	---	---	---	---	---	---	7.5	6.9	---	---
9	---	---	---	---	---	---	---	---	7.1	6.4	---	---
10	---	---	---	---	---	---	---	---	7.0	6.2	---	---
11	---	---	---	---	---	---	---	---	7.4	5.9	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	10.5	8.6	7.8	6.9	8.4	6.5	7.7	7.2
2	---	---	---	---	10.4	7.5	8.0	7.2	9.1	7.5	7.7	7.3
3	---	---	---	---	7.7	7.1	8.2	7.0	8.1	7.1	7.9	7.4
4	---	---	---	---	7.4	7.2	8.0	7.4	7.8	7.2	7.9	7.2
5	---	---	---	---	7.5	7.2	8.3	6.2	7.6	7.2	7.5	7.1
6	---	---	---	---	9.1	7.3	7.7	7.0	7.5	6.9	---	---
7	---	---	---	---	11.0	8.3	---	---	9.6	7.2	---	---
8	---	---	---	---	10.8	7.3	---	---	10.8	7.6	---	---
9	---	---	---	---	7.6	7.3	---	---	8.8	7.7	7.4	7.3
10	---	---	---	---	7.6	7.1	---	---	9.1	7.4	7.4	7.1
11	---	---	---	---	8.6	7.1	---	---	7.8	7.2	7.5	7.2
12	---	---	---	---	7.5	6.8	---	---	7.9	7.3	7.5	6.8
13	---	---	---	---	7.3	7.0	---	---	7.8	7.4	7.5	6.6
14	---	---	---	---	7.2	7.1	---	---	7.6	7.1	7.4	7.0
15	---	---	---	---	7.1	6.9	8.9	7.2	7.8	7.0	7.5	7.0
16	---	---	---	---	7.4	7.0	8.4	7.1	7.8	7.2	7.4	7.2
17	---	---	---	---	9.9	7.0	7.4	7.0	7.5	7.3	7.9	7.1
18	---	---	---	---	9.0	6.9	8.0	7.2	7.5	7.3	7.8	7.1
19	---	---	---	---	7.2	6.7	8.8	7.6	8.0	7.3	7.3	6.8
20	---	---	---	---	7.4	7.0	7.8	7.1	7.7	7.5	7.2	7.0
21	---	---	---	---	8.5	7.1	7.4	5.9	7.8	7.3	7.1	6.7
22	---	---	---	---	7.5	7.1	7.7	6.4	7.6	7.2	7.2	6.6
23	---	---	---	---	10.1	7.0	7.9	6.3	7.5	7.3	7.2	6.6
24	---	---	---	---	10.8	8.5	8.1	5.5	7.7	7.3	8.0	6.7
25	---	---	---	---	10.5	8.1	7.4	6.0	7.8	6.9	8.7	6.9
26	---	---	---	---	9.1	5.1	7.2	5.8	7.5	6.9	7.1	6.5
27	---	---	---	---	7.0	5.7	8.1	6.4	7.5	7.0	7.0	6.8
28	---	---	---	---	7.1	5.7	7.1	6.4	7.4	6.8	7.1	6.9
29	---	---	---	---	7.2	6.4	7.3	6.6	7.7	7.0	7.0	6.6
30	---	---	---	---	7.3	6.5	8.0	6.3	7.7	7.0	7.0	6.2
31	---	---	9.7	7.9	---	---	8.1	6.5	7.7	7.1	---	---

4-2122. GRAND RIVER AT PAINESVILLE, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.4	10.0	15.0	15.0	11.7	11.1	13.7	13.0	12.4	11.7	12.3	12.0
2	10.0	6.5	15.0	15.0	11.6	11.4	13.0	12.3	12.0	11.8	12.0	11.5
3	11.9	5.6	15.0	14.3	11.6	11.4	12.7	12.4	12.8	11.7	11.5	11.3
4	13.1	9.5	15.0	15.0	11.7	11.3	12.6	12.2	13.1	12.8	11.7	11.4
5	14.2	11.1	15.0	15.0	12.0	11.6	12.2	11.8	12.9	12.8	11.8	11.5
6	13.3	5.6	15.0	9.5	12.4	12.0	12.0	11.8	12.9	12.5	12.0	11.3
7	13.3	1.6	10.1	9.8	12.4	12.3	12.0	11.8	12.8	9.6	11.7	11.3
8	14.4	1.3	---	---	12.9	12.3	11.9	11.5	9.6	5.3	11.5	11.0
9	15.0	7.7	---	---	12.9	12.8	11.9	11.5	5.8	5.0	11.6	11.1
10	14.8	7.2	---	---	15.0	13.0	12.5	11.8	6.0	5.0	11.5	11.1
11	12.4	6.8	---	---	15.0	6.6	12.4	11.6	12.4	4.9	11.9	11.4
12	12.4	5.9	---	---	9.0	7.7	11.9	11.8	12.3	12.1	12.2	11.6
13	12.2	5.8	---	---	13.6	8.0	12.0	11.8	12.4	12.2	12.4	11.3
14	12.2	5.2	---	---	14.3	13.6	12.1	12.0	12.4	12.1	12.5	11.4
15	12.2	8.0	---	---	14.3	14.1	12.0	11.8	12.7	12.2	12.4	11.7
16	10.0	2.6	---	---	14.1	13.7	12.2	12.0	12.7	12.5	12.1	11.4
17	10.0	1.5	---	---	14.0	13.6	12.3	12.0	12.9	12.6	11.9	10.0
18	10.7	0.4	---	---	14.6	13.6	13.2	12.0	13.2	12.8	---	---
19	13.7	0.1	11.3	---	14.8	13.4	12.8	12.2	13.3	13.0	---	---
20	12.7	10.4	11.2	11.1	15.0	13.6	13.1	12.4	13.5	13.0	---	---
21	12.9	10.3	11.3	10.9	14.9	13.8	12.9	12.7	13.7	11.6	---	---
22	15.0	11.7	11.4	11.0	13.9	13.3	12.8	12.7	11.8	10.2	---	---
23	15.0	13.7	11.6	11.1	14.7	13.3	---	---	11.9	11.6	---	---
24	14.4	13.5	11.1	10.9	14.2	14.0	12.7	12.4	15.0	11.9	---	---
25	15.0	12.5	11.2	10.9	14.1	13.4	12.9	12.7	12.8	12.6	---	---
26	15.0	15.0	11.2	10.7	14.6	13.3	12.8	12.2	12.8	12.4	12.7	11.9
27	15.0	14.8	10.8	10.5	15.0	13.4	12.6	7.8	12.6	12.3	---	---
28	15.0	15.0	10.8	10.2	15.0	12.7	7.8	3.6	12.4	12.2	---	---
29	15.0	10.8	10.7	10.2	14.8	12.8	12.3	4.6	---	---	11.7	10.7
30	15.0	11.0	11.1	10.7	15.0	13.2	12.4	11.7	---	---	11.7	11.4
31	15.0	15.0	---	---	13.8	13.5	11.9	11.7	---	---	11.9	11.4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.4	11.0	---	---	6.0	5.3	---	6.1	---	---	---	---
2	11.5	10.5	---	---	5.8	4.9	---	---	---	---	---	---
3	---	---	---	---	6.6	5.4	---	---	---	---	---	---
4	---	---	---	---	7.1	6.6	---	---	---	---	---	---
5	---	---	---	---	7.2	6.1	---	---	---	---	---	---
6	---	---	---	---	7.2	5.7	---	---	---	---	---	---
7	---	---	---	---	7.7	6.2	---	---	---	---	---	---
8	---	---	---	---	7.7	5.7	---	---	---	---	---	---
9	10.5	10.0	---	---	7.1	6.0	---	---	---	---	---	---
10	10.3	10.0	---	---	7.5	5.9	---	---	---	---	---	---
11	10.6	10.2	12.3	11.0	7.0	4.5	---	---	---	---	---	---
12	10.9	10.0	11.3	10.5	5.6	3.1	---	---	---	---	---	---
13	10.4	9.7	10.5	9.5	5.7	3.0	---	---	---	---	---	---
14	9.7	9.3	9.8	9.1	5.7	4.3	---	---	---	---	---	---
15	9.3	8.8	9.2	8.7	5.1	3.6	---	---	---	---	---	---
16	---	---	8.8	7.6	6.8	4.3	---	---	---	---	---	---
17	---	---	---	---	6.9	4.7	---	---	---	---	---	---
18	---	---	---	---	6.0	4.5	---	---	---	---	---	---
19	---	---	---	---	5.1	3.5	---	---	---	---	---	---
20	---	---	---	---	7.0	4.5	---	---	---	---	---	---
21	---	---	---	---	7.3	6.8	---	---	---	---	---	---
22	---	---	---	---	7.5	6.2	---	---	---	---	---	---
23	---	---	---	---	7.2	5.9	---	---	---	---	---	---
24	---	---	---	---	7.1	6.0	---	---	---	---	---	---
25	---	---	---	---	7.1	5.5	---	---	---	---	---	---
26	---	---	---	---	7.4	5.0	---	---	---	---	---	---
27	---	---	---	---	6.5	4.7	---	---	---	---	---	---
28	---	---	---	---	6.5	5.2	---	---	---	---	---	---
29	---	---	6.7	6.2	6.9	6.0	---	---	---	---	---	---
30	---	---	6.8	5.4	7.0	5.6	---	---	---	---	---	---
31	---	---	6.9	5.3	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

4-2122. GRAND RIVER AT PAINESVILLE, OHIO--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	28.0	25.0	13.0	10.0	8.0	6.0	0.0	0.0	3.0	2.0	4.0	3.0
2	27.0	25.0	14.0	13.0	6.0	6.0	0.0	0.0	3.0	2.0	5.0	4.0
3	26.0	24.0	14.0	13.0	6.0	6.0	1.0	0.0	3.0	2.0	6.0	4.0
4	24.0	21.0	14.0	13.0	6.0	5.0	2.0	1.0	2.0	1.0	6.0	3.0
5	22.0	21.0	16.0	13.0	5.0	3.0	2.0	1.0	2.0	1.0	6.0	3.0
6	22.0	21.0	16.0	15.0	3.0	2.0	2.0	0.0	1.0	0.0	7.0	4.0
7	21.0	19.0	16.0	15.0	3.0	2.0	1.0	0.0	2.0	1.0	7.0	5.0
8	23.0	16.0	--	--	3.0	2.0	3.0	1.0	2.0	2.0	9.0	6.0
9	23.0	19.0	--	--	3.0	2.0	2.0	1.0	2.0	1.0	8.0	6.0
10	22.0	19.0	--	--	2.0	2.0	3.0	1.0	3.0	1.0	8.0	6.0
11	23.0	20.0	--	--	3.0	2.0	3.0	2.0	3.0	1.0	7.0	4.0
12	24.0	21.0	--	--	3.0	2.0	3.0	2.0	3.0	2.0	7.0	4.0
13	25.0	21.0	--	--	3.0	2.0	3.0	1.0	3.0	2.0	8.0	4.0
14	26.0	21.0	--	--	3.0	1.0	2.0	1.0	4.0	2.0	8.0	4.0
15	26.0	23.0	--	--	2.0	1.0	3.0	2.0	5.0	2.0	8.0	4.0
16	27.0	24.0	--	--	2.0	1.0	4.0	2.0	5.0	3.0	9.0	6.0
17	27.0	24.0	--	--	3.0	1.0	3.0	2.0	4.0	3.0	9.0	6.0
18	26.0	25.0	--	--	3.0	2.0	3.0	0.0	6.0	3.0	--	--
19	26.0	23.0	7.0	6.0	4.0	3.0	1.0	0.0	5.0	3.0	--	--
20	24.0	23.0	7.0	4.0	4.0	2.0	1.0	0.0	6.0	3.0	--	--
21	23.0	22.0	4.0	3.0	2.0	2.0	2.0	1.0	6.0	4.0	--	--
22	23.0	17.0	6.0	4.0	3.0	2.0	3.0	1.0	6.0	3.0	--	--
23	18.0	16.0	6.0	4.0	3.0	1.0	--	--	5.0	4.0	--	--
24	19.0	17.0	6.0	6.0	1.0	1.0	4.0	3.0	4.0	3.0	--	--
25	18.0	16.0	6.0	5.0	1.0	0.0	3.0	0.0	3.0	3.0	--	--
26	16.0	14.0	6.0	5.0	1.0	0.0	1.0	0.0	4.0	3.0	5.0	4.0
27	17.0	15.0	7.0	6.0	2.0	1.0	3.0	1.0	4.0	3.0	6.0	4.0
28	17.0	14.0	8.0	7.0	2.0	0.0	4.0	2.0	5.0	3.0	6.0	4.0
29	15.0	12.0	8.0	7.0	1.0	0.0	4.0	1.0	--	--	7.0	5.0
30	13.0	12.0	8.0	6.0	1.0	0.0	4.0	0.0	--	--	5.0	4.0
31	12.0	11.0	--	--	1.0	0.0	4.0	3.0	--	--	5.0	3.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.0	4.0	--	--	26.0	24.0	28.0	26.0	29.0	27.0	33.0	32.0
2	7.0	4.0	--	--	26.0	23.0	28.0	24.0	29.0	27.0	32.0	31.0
3	--	--	--	--	23.0	21.0	28.0	25.0	31.0	28.0	31.0	30.0
4	--	--	--	--	22.0	20.0	28.0	26.0	31.0	29.0	31.0	30.0
5	--	--	--	--	23.0	21.0	26.0	19.0	31.0	29.0	31.0	28.0
6	--	--	--	--	23.0	22.0	21.0	19.0	32.0	30.0	--	--
7	--	--	22.0	21.0	24.0	21.0	--	--	32.0	29.0	--	--
8	12.0	--	22.0	19.0	23.0	22.0	--	--	30.0	28.0	--	--
9	12.0	11.0	19.0	14.0	23.0	21.0	--	--	30.0	28.0	28.0	27.0
10	--	12.0	15.0	14.0	24.0	22.0	--	--	29.0	28.0	28.0	26.0
11	12.0	11.0	14.0	12.0	25.0	23.0	--	--	30.0	29.0	28.0	27.0
12	12.0	9.0	14.0	12.0	27.0	24.0	--	--	31.0	29.0	28.0	27.0
13	12.0	10.0	16.0	13.0	27.0	26.0	--	--	31.0	29.0	29.0	27.0
14	13.0	12.0	18.0	16.0	27.0	26.0	--	--	31.0	29.0	29.0	28.0
15	14.0	13.0	19.0	17.0	26.0	23.0	30.0	28.0	32.0	29.0	29.0	28.0
16	--	--	20.0	18.0	24.0	22.0	31.0	29.0	32.0	30.0	29.0	27.0
17	--	--	--	--	26.0	22.0	31.0	30.0	31.0	30.0	29.0	22.0
18	--	--	--	--	26.0	24.0	31.0	30.0	32.0	31.0	24.0	21.0
19	--	--	--	--	25.0	24.0	31.0	28.0	32.0	31.0	24.0	22.0
20	--	--	--	--	24.0	22.0	28.0	26.0	32.0	30.0	25.0	22.0
21	--	--	--	--	23.0	20.0	26.0	24.0	31.0	30.0	26.0	24.0
22	9.0	8.0	--	--	24.0	22.0	27.0	25.0	31.0	29.0	27.0	25.0
23	9.0	8.0	--	--	24.0	23.0	27.0	25.0	31.0	28.0	26.0	25.0
24	--	--	--	--	25.0	23.0	27.0	25.0	33.0	28.0	26.0	23.0
25	--	--	--	--	26.0	22.0	27.0	25.0	33.0	31.0	25.0	23.0
26	--	--	--	--	28.0	23.0	27.0	26.0	32.0	31.0	26.0	24.0
27	--	--	--	--	28.0	26.0	27.0	26.0	31.0	29.0	25.0	24.0
28	--	--	--	--	29.0	26.0	27.0	26.0	31.0	29.0	24.0	23.0
29	--	--	24.0	22.0	28.0	26.0	28.0	26.0	32.0	28.0	24.0	22.0
30	--	--	26.0	24.0	28.0	26.0	29.0	27.0	33.0	28.0	23.0	21.0
31	--	--	27.0	24.0	--	--	29.0	27.0	33.0	32.0	--	--

4-2127. ASHTABULA RIVER AT ASHTABULA, OHIO

LOCATION.--Lat 41°54'00", long 80°47'44", Ashtabula County, on right bank at Jack's Automarine, 600 ft upstream from bridge on State Highway 531, 4,000 ft upstream from mouth, and 4,000 ft downstream from Fields Brook, in Ashtabula.
DRAINAGE AREA.--136 sq mi.
PERIOD OF RECORD.--Chemical analyses: June 1968 to September 1969.
Water temperatures: June 1968 to September 1969.
EXTREMES, 1968-69.--Specific conductance: Maximum, 2,200 micromhos Oct. 5; minimum, 130 micromhos Dec. 28.
pH: Maximum, 9.4 Feb. 27; minimum, 6.0 Aug. 6.
Water temperatures: Maximum, 27°C Aug. 6; minimum, freezing point on many days during December to March.
EXTREMES, June 1968 to September 1969.--Specific conductance: Maximum, 2,530 micromhos June 27, 1968; minimum, 130 micromhos Dec. 28, 1968.
pH: Maximum, 9.4 Feb. 27, 1969; minimum, 4.8 June 30, 1968.
Water temperatures: Maximum, 29°C Aug. 23, 24, 1968; minimum, freezing point on many days during December 1968 to March 1969.
REMARKS.--Continuous water quality recorder operated since June 1968. Dissolved oxygen concentrations listed as 15.0 mg/l represent concentrations of 15.0 mg/l or greater, due to instrument limitation. Interruptions in the record were due to malfunctions of the instrument. In addition to the continuous recorder, samples were collected by a local observer on an approximate twice-weekly basis. Partial analyses were made on maximum specific conductance and minimum specific conductance of the samples collected each month. No discharge records available.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.											
07...	2000	122	0	43	90	.2	.6	338	150	50	591
21...	2200	108	0	63	295	.4	1.7	771	286	197	1300
NOV.											
07...	1505	92	0	63	210	.2	1.3	550	155	80	927
25...	2200	44	0	56	58	.1	1.5	228	105	69	395
DEC.											
12...	1000	52	0	67	124	.1	1.5	394	135	92	648
30...	1450	24	0	34	34	.1	1.6	166	70	50	242
JAN.											
23...	2200	34	0	44	34	.0	1.8	167	76	48	278
30...	1000	54	0	75	90	.2	1.7	350	144	100	558
FEB.											
06...	1255	40	0	44	30	.2	2.3	162	90	57	268
10...	2200	98	0	32	43	.2	1.4	224	132	52	382
MAR.											
14...	1000	114	0	29	28	.2	.7	202	132	38	335
22...	1200	60	0	60	97	.2	1.2	312	120	71	553
APR.											
24...	2200	38	0	33	36	.1	.1	182	70	39	263
30...	2200	68	0	63	270	.2	.0	674	170	115	1140
MAY											
22...	1415	48	0	48	74	.0	3.0	262	102	62	439
JUNE											
18...	2200	84	0	86	365	.4	5.9	830	175	106	1510
25...	2400	104	0	58	200	.2	3.9	504	162	77	907
JULY											
01...	1505	106	0	69	344	.3	3.6	808	183	96	1360
20...	1000	38	0	40	47	.2	4.1	206	86	55	323
AUG.											
07...	1600	100	0	106	370	.5	.2	870	246	164	1510
26...	2200	106	0	51	213	.2	2.0	550	162	75	946
SEPT.											
09...	1600	100	0	60	460	.2	3.3	946	194	112	1790
24...	1430	54	0	128	45	.2	.5	300	186	142	510

4-2127. ASHTABULA RIVER AT ASHTABULA, OHIO--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1590	930	530	420	430	310	460	390	240	190	360	350
2	1510	940	690	490	610	410	500	450	320	240	380	340
3	1930	1330	720	510	600	460	600	450	410	300	370	360
4	2080	1740	800	560	600	430	550	400	400	360	360	340
5	2200	1700	850	490	---	---	410	340	---	---	350	330
6	2080	620	1080	560	420	280	460	370	270	260	330	320
7	1480	580	1110	890	420	350	420	330	350	270	450	320
8	1100	380	1000	830	400	350	390	350	430	350	380	310
9	940	640	1050	790	460	400	460	360	380	340	360	300
10	1180	650	1060	520	430	320	410	340	390	370	320	310
11	840	620	840	440	630	380	380	350	420	390	370	310
12	1600	730	780	460	670	600	360	340	440	390	470	330
13	1160	460	980	760	770	280	350	340	380	360	340	330
14	1040	530	850	730	300	250	360	340	400	360	340	320
15	1180	970	1050	760	370	290	360	340	410	380	380	330
16	1160	970	780	310	400	360	390	350	---	---	350	330
17	1480	1070	410	340	460	380	400	360	---	---	380	340
18	1480	1250	470	340	470	390	830	260	---	---	380	340
19	1600	900	440	340	590	470	260	210	---	---	580	340
20	1300	860	510	440	660	560	330	240	---	---	750	380
21	1500	1220	640	310	560	350	350	280	---	---	1080	750
22	1540	1250	640	440	560	360	320	280	---	---	1200	550
23	1710	1420	460	410	570	290	290	260	---	---	730	550
24	1530	710	520	410	380	280	370	290	---	---	820	640
25	1220	630	520	380	370	350	400	310	390	370	910	760
26	1570	660	580	380	350	310	360	300	390	380	790	440
27	660	560	710	600	510	330	310	270	380	370	490	400
28	650	570	810	630	590	130	390	280	370	360	640	430
29	850	650	630	250	220	210	430	360	---	---	730	470
30	980	400	310	260	370	200	670	250	---	---	520	380
31	420	370	---	---	400	330	250	190	---	---	600	430

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	730	330	1050	1040	1120	980	1460	850	1310	1120	1400	870
2	940	220	1270	1050	1500	1120	1000	960	1200	910	1800	790
3	340	310	1230	1040	1590	1430	1040	590	1200	930	1400	480
4	510	310	1330	1080	1650	1180	1040	900	1300	770	970	920
5	610	240	1480	1030	1720	1570	---	---	1260	850	1310	890
6	280	200	1510	1140	1690	1580	---	---	1700	1190	1290	900
7	300	280	1520	1180	1720	890	---	---	1530	1430	1840	1110
8	640	280	1800	670	1700	980	---	---	1430	1220	1940	1100
9	670	440	670	230	1770	990	---	---	1590	1220	2100	1680
10	920	420	470	280	1700	860	---	---	1570	810	2050	1300
11	420	330	610	230	1640	830	---	---	1230	670	1950	1340
12	600	390	330	240	1510	1070	---	---	1230	680	1720	1320
13	670	450	540	310	1240	970	---	---	950	660	1440	720
14	630	450	960	480	1620	1120	---	---	980	760	860	620
15	780	490	1040	580	1740	1150	910	680	1310	890	850	680
16	990	770	1040	650	2000	1080	1100	520	1640	1120	980	710
17	1010	660	840	590	1700	1250	1000	690	1340	1050	1590	690
18	1380	---	850	360	1590	1420	1040	810	1260	1020	1620	560
19	---	---	360	160	1660	1400	1020	390	1790	630	1120	690
20	---	---	230	170	1680	1520	460	320	1510	660	1210	1030
21	530	320	530	230	1830	800	490	420	1260	530	1330	760
22	640	500	480	380	1370	980	890	490	1160	500	990	690
23	660	340	590	480	1700	1100	770	600	920	580	1130	700
24	340	240	820	560	1630	1500	760	620	1050	890	---	---
25	460	250	820	470	1570	770	860	670	1220	960	1100	530
26	570	350	1000	500	1680	900	880	810	1290	740	720	490
27	710	430	1110	920	1260	950	1060	860	1200	740	930	740
28	700	500	1410	1030	1190	720	1120	1020	1250	860	1480	930
29	1000	590	1460	850	1170	690	1260	1090	1260	860	1450	1020
30	1180	1000	1210	930	1300	690	1260	850	1560	580	1020	900
31	---	---	1300	980	---	---	1260	970	1340	750	---	---

4-2127. ASHTABULA RIVER AT ASHTABULA, OHIO--Continued

PH (UNITS), WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	7.9	7.7	8.6	8.3	---	---	7.7	7.5	---	---	8.8	8.4
2	7.9	7.6	8.6	8.3	---	---	7.9	7.3	---	---	9.2	8.4
3	7.6	7.6	8.3	8.2	---	---	7.8	6.9	---	---	9.1	8.5
4	7.6	7.6	8.3	8.1	---	---	8.0	7.3	---	---	9.1	8.5
5	7.6	7.5	8.2	8.0	---	---	8.0	7.6	---	---	8.8	8.5
6	7.7	7.5	8.2	8.1	---	---	8.1	7.2	8.0	7.6	9.0	8.6
7	7.6	7.5	8.1	8.0	---	---	8.5	7.5	8.8	6.4	9.0	8.6
8	7.5	7.5	8.1	8.0	---	---	8.3	7.7	7.0	6.4	9.1	8.6
9	7.5	7.4	8.1	7.8	---	---	8.2	7.7	8.7	6.9	9.2	8.7
10	7.6	7.4	8.5	7.6	---	---	8.3	7.9	9.0	6.8	9.2	8.6
11	7.7	7.5	8.4	8.0	---	---	8.5	8.1	8.8	8.4	9.2	8.7
12	7.8	7.6	8.4	8.3	---	---	8.3	8.1	8.5	8.1	9.2	8.6
13	7.8	7.6	8.4	8.3	---	---	8.3	8.1	8.8	8.5	9.2	8.8
14	7.9	7.8	8.7	8.4	---	---	8.7	8.0	8.8	8.6	9.0	8.8
15	7.9	7.7	8.7	7.8	---	---	8.3	8.1	8.7	8.6	8.9	8.7
16	7.8	7.7	7.9	7.6	---	---	8.3	8.0	---	---	9.1	8.7
17	7.9	7.8	7.9	7.7	---	---	8.3	8.1	---	---	9.0	8.6
18	7.8	7.5	8.2	7.7	---	---	---	---	---	---	9.1	8.6
19	7.9	7.6	---	---	---	---	---	---	---	---	8.9	8.2
20	7.9	7.8	---	---	---	---	---	---	---	---	8.6	7.7
21	7.8	7.7	---	---	---	---	---	---	---	---	7.7	7.2
22	7.7	7.6	---	---	---	---	---	---	---	---	7.9	6.8
23	7.7	7.6	---	---	---	---	---	---	---	---	7.2	6.9
24	7.9	7.6	---	---	---	---	---	---	---	---	7.2	6.8
25	8.0	7.8	---	---	---	---	---	---	8.9	8.7	7.4	6.8
26	8.3	7.8	---	---	---	---	---	---	9.1	8.6	7.7	6.4
27	8.5	8.3	---	---	---	---	---	---	9.4	8.7	8.0	7.6
28	8.6	8.4	---	---	---	---	---	---	8.9	8.5	8.7	7.6
29	8.6	8.4	---	---	---	---	---	---	---	---	8.7	7.3
30	8.7	8.3	---	---	7.2	7.1	---	---	---	---	7.9	7.5
31	8.9	8.6	---	---	8.0	7.0	---	---	---	---	8.2	7.8

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.1	7.6	7.5	7.4	7.1	7.0	7.4	7.0	7.2	7.1	7.5	7.3
2	7.7	7.3	7.5	7.5	7.0	6.9	7.2	7.0	7.4	7.2	7.5	7.2
3	7.5	6.7	7.6	7.5	6.9	6.8	7.1	7.0	7.6	7.3	7.8	7.3
4	7.9	6.5	7.5	7.2	6.9	6.7	7.2	6.9	7.9	7.3	7.8	7.6
5	7.1	6.6	7.4	7.1	6.7	6.5	---	---	7.9	7.5	7.6	7.3
6	6.9	6.7	7.3	7.1	6.6	6.5	---	---	7.6	6.0	7.4	6.9
7	7.0	6.6	7.4	7.2	7.0	6.5	---	---	7.4	7.2	7.0	6.9
8	6.7	6.4	7.6	7.3	6.9	6.4	---	---	7.4	7.3	7.0	6.9
9	6.6	6.3	7.5	7.1	6.8	6.4	---	---	7.4	7.3	7.1	7.0
10	6.6	6.3	7.6	7.3	6.9	6.4	---	---	7.7	7.2	7.4	7.1
11	6.8	6.4	7.7	7.4	7.1	6.5	---	---	7.7	7.4	7.6	7.3
12	6.7	6.4	7.7	6.5	7.5	6.8	---	---	7.9	7.3	7.6	7.2
13	6.6	6.3	7.3	6.9	7.0	6.8	---	---	8.0	7.7	7.8	7.5
14	6.5	6.4	7.3	6.4	7.2	6.8	---	---	8.0	7.8	7.9	7.8
15	6.4	6.3	7.0	6.7	7.3	7.0	8.0	7.5	8.0	7.7	7.9	7.6
16	7.6	6.4	7.4	6.8	7.3	7.0	7.7	7.1	7.9	7.4	7.8	7.5
17	7.4	6.9	7.5	7.2	7.3	6.9	7.4	7.0	7.4	7.3	7.6	7.2
18	7.9	7.4	7.6	7.1	7.0	6.9	7.1	6.9	7.4	7.2	7.6	7.2
19	---	---	7.1	6.7	6.9	6.8	6.9	6.8	7.6	7.1	7.6	7.4
20	---	---	7.0	6.8	6.9	6.8	6.8	6.7	7.6	7.3	7.5	7.4
21	7.9	7.6	7.0	6.6	6.9	6.8	7.0	6.7	7.7	7.3	7.4	7.2
22	7.9	7.5	6.8	6.6	6.8	6.8	7.0	6.8	7.8	7.4	7.5	7.1
23	8.1	7.8	7.6	6.7	6.8	6.7	7.1	6.7	7.8	7.5	7.4	7.1
24	8.3	7.8	7.5	6.9	6.8	6.7	6.9	6.6	7.6	7.3	7.5	7.1
25	7.9	7.6	7.5	6.9	7.0	6.7	7.0	6.7	7.6	7.2	8.0	7.4
26	7.8	7.4	7.2	7.0	7.5	6.8	7.0	6.9	7.5	7.2	8.0	7.5
27	8.2	7.5	7.0	6.8	7.4	7.2	7.0	6.9	7.6	7.3	7.5	7.3
28	7.8	7.6	7.1	6.8	7.2	7.0	7.0	6.9	7.5	7.3	7.3	7.2
29	7.7	7.4	7.4	7.0	7.0	6.7	7.0	7.0	7.5	7.3	8.0	7.2
30	7.4	7.3	7.3	7.1	7.2	7.0	7.4	7.0	7.4	7.1	7.9	7.4
31	---	---	7.2	7.0	---	---	7.3	7.1	7.4	7.3	---	---

4-2127. ASHTABULA RIVER AT ASHTABULA, OHIO--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	3.4	2.6	---	---	---	---	---	---	---	---	---	---
2	4.5	2.9	---	---	---	---	---	---	---	---	---	---
3	3.8	2.6	---	---	---	---	---	---	---	---	---	---
4	2.6	2.3	---	---	---	---	---	---	---	---	---	---
5	2.5	2.3	---	---	---	---	---	---	---	---	---	---
6	3.4	2.4	---	---	---	---	---	---	13.8	12.5	---	---
7	3.5	2.6	---	---	---	---	---	---	14.0	12.7	---	---
8	4.0	3.5	---	---	---	---	---	---	13.4	12.1	---	---
9	3.9	3.3	---	---	---	---	---	---	13.4	12.5	---	---
10	5.0	3.8	---	---	---	---	---	---	12.4	7.6	---	---
11	4.8	4.5	---	---	---	---	---	---	10.7	7.4	---	---
12	8.2	4.8	---	---	---	---	---	---	10.1	9.7	---	---
13	8.4	7.1	---	---	---	---	---	---	10.1	9.6	---	---
14	7.7	---	---	---	---	---	---	---	10.0	9.4	---	---
15	---	---	---	---	---	---	---	---	9.8	9.6	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	10.1	9.2	---	---
26	---	---	---	---	---	---	---	---	9.3	8.7	13.3	11.3
27	---	---	---	---	---	---	---	---	---	---	15.0	12.7
28	---	---	---	---	---	---	---	---	---	---	13.6	12.1
29	---	---	---	---	---	---	---	---	---	---	12.2	9.3
30	---	---	---	---	---	---	---	---	---	---	11.5	10.3
31	---	---	---	---	---	---	---	---	---	---	14.7	12.4

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	11.3	7.7	7.0	---	---	---	---	2.8	2.3	6.9	5.0
2	12.6	9.3	7.8	7.1	---	---	---	---	3.8	2.2	7.1	4.3
3	14.6	10.7	7.6	7.1	---	---	---	---	4.4	2.7	8.7	4.5
4	12.2	10.1	7.3	6.9	---	---	---	---	5.8	2.8	7.5	6.1
5	10.7	8.2	6.9	6.5	---	---	---	---	5.1	3.2	6.8	5.2
6	13.5	10.0	6.5	5.8	---	---	---	---	3.6	1.3	5.2	3.8
7	15.0	11.7	6.5	5.7	---	---	---	---	2.3	1.3	4.8	3.0
8	15.0	11.4	6.4	5.4	---	---	---	---	2.9	1.7	4.5	2.9
9	14.4	10.0	7.9	6.4	---	---	---	---	2.5	1.6	5.0	4.5
10	12.1	7.2	8.4	7.5	---	---	---	---	4.7	1.4	---	---
11	13.0	10.5	9.8	8.1	---	---	---	---	5.2	3.0	---	---
12	14.7	11.3	10.0	8.8	---	---	---	---	6.2	2.9	---	---
13	14.0	10.3	9.6	9.3	---	---	---	---	7.9	5.8	---	---
14	15.0	11.3	9.7	8.5	---	---	---	---	8.3	6.8	---	---
15	15.0	12.9	9.1	8.0	---	---	8.6	6.7	7.9	6.6	---	---
16	15.0	7.1	8.2	7.6	---	---	7.6	4.0	6.8	3.3	---	---
17	---	---	7.6	6.1	---	---	6.1	3.9	3.6	2.1	---	---
18	---	---	6.5	5.2	---	---	3.9	1.7	4.0	2.1	---	---
19	---	---	7.0	5.4	---	---	6.9	1.3	5.7	2.2	---	---
20	---	---	8.0	6.7	---	---	7.0	5.3	5.7	3.4	---	---
21	12.0	10.3	7.9	7.5	---	---	7.0	5.4	4.7	2.9	---	---
22	10.7	8.6	7.8	7.1	---	---	6.8	5.9	4.9	2.8	---	---
23	9.6	7.8	---	---	---	---	6.8	2.3	5.7	4.0	---	---
24	13.5	9.6	---	---	---	---	4.0	2.3	5.7	4.0	---	---
25	15.0	9.4	---	---	---	---	4.3	3.5	5.8	3.5	---	---
26	10.9	8.8	---	---	---	---	3.9	2.1	6.1	2.8	---	---
27	9.8	7.7	---	---	---	---	2.3	1.9	5.4	3.5	---	---
28	8.0	6.7	---	---	---	---	1.9	1.8	5.3	3.7	---	---
29	15.0	6.5	---	---	---	---	1.8	1.7	4.6	3.6	---	---
30	10.0	6.7	---	---	---	---	4.1	1.7	5.3	3.5	---	---
31	---	---	---	---	---	---	4.0	2.5	6.6	4.7	---	---

4-2127. ASHTABULA RIVER AT ASHTABULA, OHIO--Continued

TEMPERATURE (C°) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.0	20.0	9.0	9.0	5.0	3.0	0.0	0.0	---	---	1.0	1.0
2	21.0	20.0	11.0	9.0	4.0	3.0	0.0	0.0	---	---	1.0	0.0
3	21.0	20.0	11.0	11.0	5.0	4.0	0.0	0.0	---	---	1.0	1.0
4	20.0	19.0	12.0	11.0	5.0	4.0	0.0	0.0	---	---	2.0	1.0
5	19.0	18.0	12.0	12.0	---	---	0.0	0.0	---	---	1.0	1.0
6	18.0	16.0	12.0	12.0	1.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
7	16.0	16.0	12.0	12.0	1.0	0.0	0.0	0.0	1.0	1.0	2.0	1.0
8	17.0	16.0	12.0	11.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
9	17.0	16.0	11.0	9.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0
10	17.0	16.0	9.0	8.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
11	17.0	16.0	8.0	8.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
12	17.0	16.0	8.0	6.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
13	17.0	16.0	7.0	6.0	2.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0
14	18.0	17.0	6.0	4.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
15	18.0	17.0	5.0	4.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0
16	19.0	18.0	6.0	4.0	0.0	0.0	0.0	0.0	---	---	1.0	1.0
17	20.0	18.0	6.0	5.0	1.0	0.0	0.0	0.0	---	---	2.0	1.0
18	19.0	19.0	6.0	6.0	1.0	0.0	---	---	---	---	2.0	1.0
19	19.0	18.0	6.0	4.0	1.0	0.0	---	---	---	---	3.0	1.0
20	19.0	18.0	4.0	2.0	2.0	1.0	---	---	---	---	4.0	2.0
21	18.0	18.0	2.0	2.0	1.0	0.0	---	---	---	---	6.0	4.0
22	18.0	17.0	3.0	2.0	1.0	0.0	---	---	---	---	6.0	3.0
23	17.0	16.0	4.0	2.0	1.0	0.0	---	---	---	---	5.0	1.0
24	16.0	15.0	5.0	4.0	0.0	0.0	---	---	---	---	6.0	5.0
25	15.0	15.0	5.0	4.0	0.0	0.0	---	---	1.0	0.0	6.0	6.0
26	15.0	10.0	4.0	4.0	0.0	0.0	---	---	1.0	1.0	6.0	4.0
27	10.0	10.0	5.0	4.0	1.0	0.0	---	---	1.0	1.0	6.0	3.0
28	11.0	10.0	6.0	5.0	1.0	0.0	---	---	1.0	0.0	4.0	3.0
29	11.0	10.0	7.0	6.0	1.0	0.0	---	---	---	---	6.0	4.0
30	10.0	8.0	6.0	4.0	1.0	0.0	---	---	---	---	5.0	3.0
31	9.0	6.0	---	---	1.0	1.0	---	---	---	---	3.0	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.0	2.0	14.0	13.0	19.0	18.0	23.0	21.0	26.0	24.0	25.0	20.0
2	5.0	4.0	15.0	13.0	19.0	18.0	23.0	22.0	25.0	24.0	26.0	25.0
3	6.0	4.0	15.0	14.0	19.0	17.0	22.0	20.0	25.0	24.0	25.0	25.0
4	7.0	4.0	16.0	14.0	18.0	16.0	22.0	21.0	26.0	24.0	25.0	24.0
5	9.0	7.0	16.0	14.0	18.0	17.0	---	---	26.0	24.0	25.0	24.0
6	9.0	7.0	16.0	15.0	18.0	17.0	---	---	27.0	25.0	24.0	23.0
7	9.0	7.0	16.0	15.0	18.0	18.0	---	---	26.0	25.0	25.0	24.0
8	10.0	9.0	18.0	14.0	18.0	17.0	---	---	26.0	25.0	24.0	24.0
9	11.0	9.0	16.0	14.0	19.0	18.0	---	---	25.0	25.0	24.0	23.0
10	12.0	10.0	14.0	12.0	20.0	18.0	---	---	25.0	24.0	23.0	21.0
11	11.0	10.0	12.0	10.0	21.0	19.0	---	---	24.0	24.0	22.0	21.0
12	11.0	9.0	13.0	11.0	21.0	18.0	---	---	25.0	24.0	21.0	20.0
13	10.0	9.0	14.0	13.0	20.0	18.0	---	---	25.0	24.0	21.0	20.0
14	11.0	10.0	15.0	13.0	20.0	19.0	---	---	25.0	24.0	21.0	20.0
15	12.0	11.0	16.0	13.0	19.0	19.0	25.0	24.0	26.0	24.0	21.0	20.0
16	14.0	12.0	17.0	15.0	20.0	19.0	25.0	21.0	26.0	25.0	21.0	21.0
17	14.0	12.0	18.0	15.0	21.0	19.0	25.0	22.0	25.0	25.0	21.0	20.0
18	14.0	13.0	17.0	14.0	20.0	19.0	24.0	23.0	26.0	24.0	21.0	20.0
19	---	---	17.0	16.0	20.0	19.0	24.0	22.0	26.0	25.0	20.0	19.0
20	---	---	18.0	16.0	20.0	19.0	22.0	21.0	25.0	25.0	20.0	19.0
21	9.0	8.0	17.0	16.0	19.0	18.0	23.0	21.0	25.0	25.0	19.0	19.0
22	11.0	9.0	17.0	16.0	19.0	18.0	24.0	22.0	25.0	24.0	19.0	18.0
23	10.0	8.0	17.0	16.0	20.0	18.0	24.0	22.0	25.0	24.0	20.0	19.0
24	10.0	7.0	17.0	16.0	20.0	19.0	24.0	18.0	25.0	24.0	19.0	19.0
25	13.0	9.0	18.0	14.0	19.0	19.0	21.0	18.0	26.0	25.0	19.0	18.0
26	14.0	12.0	16.0	14.0	23.0	19.0	21.0	20.0	26.0	25.0	19.0	18.0
27	14.0	13.0	17.0	16.0	24.0	19.0	22.0	21.0	25.0	24.0	18.0	18.0
28	15.0	12.0	18.0	16.0	22.0	17.0	23.0	22.0	25.0	24.0	18.0	18.0
29	14.0	13.0	19.0	16.0	20.0	19.0	24.0	23.0	25.0	24.0	18.0	17.0
30	14.0	12.0	18.0	16.0	22.0	20.0	24.0	23.0	25.0	25.0	18.0	17.0
31	---	---	19.0	17.0	---	---	26.0	23.0	25.0	24.0	---	---

PESTICIDE ANALYSES OF STREAMS IN THE OHIO RIVER BASIN IN OHIO

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	ALDRIN (UG/L)	DDD (UG/L)	DDE (UG/L)	DDT (UG/L)	DI-ELDRIN (UG/L)	ENDRIN (UG/L)	HEPTACHLOR (UG/L)
3-1446, MUSKINGUM RIVER AT ZANESVILLE, AT BOAT DOCK AT ZANESVILLE MUNICIPAL WATER PLANT (LAT 29°57'41", LONG 81°59'39")							
OCT. 07-11	.00	.00	.00	.01	.00	.00	.00
NOV. 17-21	.00	.00	.00	.00	.00	.00	.00
APR. 18-24	.01	.00	.00	.00	.00	.00	.00
MAY 07-14	.00	.00	.00	.00	.00	.00	.00
JUNE 23-28	.00	.00	.00	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.01	.00	.00
AUG. 08-13	.00	.00	.00	.00	.01	.00	.00
SEPT. 14-20	.00	.00	.01	.00	.00	.00	.00
3-1490. MUSKINGUM RIVER BELOW ZANESVILLE, AT BRIDGE ON STATE HIGHWAY 60 (LAT 39°52'48", LONG 81°58'46")							
OCT. 07-11	.00	.00	.00	.03	.00	.00	.00
NOV. 17-21	.00	.00	.00	.00	.00	.00	.00
APR. 18-24	.02	.00	.00	.00	.00	.00	.00
MAY 05-11	.01	.00	.00	.00	.00	.00	.00
JUNE 23-28	.00	.00	.00	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.01	.00	.00
AUG. 08-13	.00	.00	.00	.01	.00	.00	.00
SEPT. 14-20	.00	.00	.00	.00	.00	.00	.00
3-2220.1. SCIOTO RIVER AT COLUMBUS, AT RAW WATER INTAKE TO CITY OF COLUMBUS, DUBLIN ROAD WATER TREATMENT PLANT (LAT 39°58'05", LONG 83°02'06")							
OCT. 04-08	.00	.00	.00	.01	.00	.00	.00
NOV. 15-19	.00	.00	.00	.00	.00	.00	.00
APR. 18-25	.00	.00	.00	.00	.01	.00	.00
MAY 18-25	.00	.00	.00	.00	.00	.00	.00
JUNE 10-14	.00	.00	.00	.00	.00	.00	.00
JULY 20-24	.00	.00	.00	.00	.01	.00	.00
AUG. 10-15	.00	.00	.00	.01	.00	.00	.00
SEPT. 07-13	.00	.00	.00	.00	.00	.00	.00
3-2700.1. MAD RIVER AT DAYTON, AT MAN-MADE CHANNEL OF MAD RIVER, JUST EAST OF HARSHMAN ROAD (LAT 39°47'22", LONG 84°06'42")							
OCT. 02-06	.00	.00	.00	.00	.00	.00	.00
NOV. 06-10	.00	.00	.00	.00	.00	.00	.00
APR. 18-25	.00	.00	.00	.04	.00	.00	.00
MAY 11-14	.00	.00	.00	.00	.03	.00	.00
JUNE 18-24	.00	.02	.02	.03	.00	.00	.00
JULY 21-26	.00	.00	.00	.02	.00	.00	.00
AUG. 10-16	.00	.00	.01	.00	.00	.00	.00
SEPT. 24-30	.00	.00	.00	.00	.01	.00	.00

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HEPTACHLOR EPOXIDE (UG/L)	METHOXYCHLOR (UG/L)	LINDANE (UG/L)	CHLORDANE (UG/L)	MALATHION (UG/L)	METHYL PARATHION (UG/L)	PARATHION (UG/L)
3-1446. MUSKINGUM RIVER AT ZANESVILLE, AT BOAT DOCK AT ZANESVILLE MUNICIPAL WATER PLANT (LAT 29°57'41", LONG 81°59'39")							
OCT. 07-11	.00	.00	.00	.00	.00	.00	.00
NOV. 17-21	.00	.00	.00	.00	.00	.00	.00
APR. 18-24	.00	.00	.00	.00	.00	.00	.00
MAY 07-14	.00	.00	.01	.00	.00	.00	.00
JUNE 23-28	.00	.00	.01	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.00	.00	.00
AUG. 08-13	.00	.00	.00	.00	.00	.00	.00
SEPT. 14-20	.00	.00	.00	.00	.00	.00	.00
3-1490. MUSKINGUM RIVER BELOW ZANESVILLE, AT BRIDGE ON STATE HIGHWAY 60 (LAT 39°52'48", LONG 81°58'46")							
OCT. 07-11	.00	.00	.00	.00	.00	.00	.00
NOV. 17-21	.00	.00	.00	.00	.00	.00	.00
APR. 18-24	.00	.00	.00	.00	.00	.00	.00
MAY 05-11	.00	.00	.00	.00	.00	.00	.00
JUNE 23-28	.00	.00	.00	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.00	.00	.00
AUG. 08-13	.00	.00	.00	.00	.00	.00	.00
SEPT. 14-20	.00	.00	.00	.00	.00	.00	.00
3-2220.1 SCIOTO RIVER AT COLUMBUS, AT RAW WATER INTAKE TO CITY OF COLUMBUS, DUBLIN ROAD WATER TREATMENT PLANT (LAT 39°58'05", LONG 83°02'06")							
OCT. 04-08	.00	.00	.00	.00	.00	.00	.00
NOV. 15-19	.00	.00	.00	.00	.00	.00	.00
APR. 18-25	.00	.00	.00	.00	.00	.00	.00
MAY 18-25	.00	.00	.00	.00	.00	.00	.00
JUNE 10-14	.00	.00	.00	.00	.00	.00	.00
JULY 20-24	.00	.00	.00	.00	.00	.00	.00
AUG. 10-15	.00	.00	.00	.00	.00	.00	.00
SEPT. 07-13	.00	.00	.00	.00	.00	.00	.00
3-2700.1. MAD RIVER AT DAYTON, AT MAN-MADE CHANNEL OF MAD RIVER, JUST EAST OF HARSHMAN ROAD (LAT 39°47'22", LONG 84°06'42")							
OCT. 02-06	.00	.00	.00	.00	.00	.00	.00
NOV. 06-10	.00	.00	.00	.00	.00	.00	.00
APR. 18-25	.00	.00	.00	.00	.00	.00	.00
MAY 11-14	.00	.00	.00	.00	.00	.00	.00
JUNE 18-24	.00	.00	.00	.00	.00	.00	.00
JULY 21-26	.00	.00	.00	.00	.00	.00	.00
AUG. 10-16	.00	.00	.00	.00	.00	.00	.00
SEPT. 24-30	.00	.00	.00	.00	.00	.00	.00

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	ALORIN (UG/L)	DOO (UG/L)	OOE (UG/L)	ODT (UG/L)	DI-ELORIN (UG/L)	ENORIN (UG/L)	HEPTA-CHLOR (UG/L)
STREAMS TRIBUTARY TO LAKE ERIE							
4-1934.9. MAUMEE RIVER NEAR WATERVILLE, AT RAW WATER INTAKE TO BOWLING GREEN WATER TREATMENT PLANT (LAT 41°28'34", LONG 83°44'20")							
OCT. 18-22	.00	.00	.00	.00	.00	.00	.00
NOV. 26-30	.00	.00	.00	.00	.00	.00	.00
APR. 20-24	.00	.00	.00	.00	.00	.00	.00
MAY 17-24	.00	.00	.00	.00	.00	.00	.00
JUNE 18-25	.00	.00	.00	.00	.01	.00	.00
JULY 10-15	.00	.00	.00	.00	.02	.00	.00
AUG. 09-14	.00	.00	.00	.01	.02	.00	.00
SEPT. 16-22	.00	.00	.00	.02	.00	.00	.00
4-1980.02. SANDUSKY RIVER AT FREMONT, AT RAW WATER INTAKE TO FREMONT WATER TREATMENT PLANT (LAT 41°20'00", LONG 83°07'13")							
OCT. 07-11	.00	.00	.00	.00	.00	.00	.00
NOV. 16-20	.00	.00	.00	.00	.00	.00	.00
APR. 19-23	.00	.00	.00	.01	.00	.00	.00
MAY 07-14	.00	.00	.00	.00	.00	.00	.00
JUNE 23-28	.00	.00	.00	.00	.00	.00	.00
JULY 17-22	.00	.00	.00	.00	.03	.00	.00
AUG. 17-23	.00	.00	.00	.00	.00	.00	.00
SEPT. 23-28	.00	.00	.00	.01	.00	.00	.00
4-2024.02. CUYAHOGA RIVER NEAR KENT, AT RAW WATER INTAKE TO AKRON WATER TREATMENT PLANT AT LAKE ROCKWELL (LAT 41°10'55", LONG 81°20'26")							
OCT. 26-30	.00	.00	.00	.00	.00	.00	.00
NOV. 16-20	.00	.00	.00	.00	.00	.00	.00
APR. 22-30	.00	.00	.00	.04	.00	.00	.00
MAY 08-15	.00	.00	.00	.00	.00	.00	.00
JUNE 13-20	.00	.00	.00	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.00	.00	.00
AUG. 18-25	.00	.00	.00	.01	.00	.00	.00
SEPT. 16-22	.00	.00	.00	.00	.00	.00	.00

PESTICIDE ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	HEPTACHLOR EPOXIDE (UG/L)	METHOXYCHLOR (UG/L)	LINDANE (UG/L)	CHLORDANE (UG/L)	MALATHION (UG/L)	METHYL PARATHION (UG/L)	PARATHION (UG/L)
STREAMS TRIBUTARY TO LAKE ERIE							
4-1934.9. MAUMEE RIVER NEAR WATERVILLE, AT RAW WATER INTAKE TO BOWLING GREEN WATER TREATMENT PLANT (LAT 41°28'34", LONG 83°44'20")							
OCT. 18-22	.00	.00	.00	.00	.00	.00	.00
NOV. 26-30	.00	.00	.00	.00	.00	.00	.00
APR. 20-24	.00	.00	.01	.00	.00	.00	.00
MAY 17-24	.00	.00	.00	.00	.00	.00	.00
JUNE 18-25	.00	.00	.00	.00	.00	.00	.00
JULY 10-15	.00	.00	.00	.00	.00	.00	.00
AUG. 09-14	.00	.00	.00	.00	.00	.00	.00
SEPT. 16-22	.00	.00	.00	.00	.00	.00	.00
4-1980.02. SANDUSKY RIVER AT FREMONT, AT RAW WATER INTAKE TO FREMONT WATER TREATMENT PLANT (LAT 41°20'00", LONG 83°07'13")							
OCT. 07-11	.00	.00	.00	.00	.00	.00	.00
NOV. 16-20	.00	.00	.00	.00	.00	.00	.00
APR. 19-23	.00	.00	.00	.00	.00	.00	.00
MAY 07-14	.00	.00	.00	.00	.00	.00	.00
JUNE 23-28	.00	.00	.00	.00	.00	.00	.00
JULY 17-22	.00	.00	.00	.00	.00	.00	.00
AUG. 17-23	.00	.00	.00	.00	.00	.00	.00
SEPT. 23-28	.00	.00	.00	.00	.00	.00	.00
4-2024.02. CUYAHOGA RIVER NEAR KENT, AT RAW WATER INTAKE TO AKRON WATER TREATMENT PLANT AT LAKE ROCKWELL (LAT 41°10'55", LONG 81°20'26")							
OCT. 26-30	.00	.00	.00	.00	.00	.00	.00
NOV. 16-20	.00	.00	.00	.00	.00	.00	.00
APR. 22-30	.00	.00	.00	.00	.00	.00	.00
MAY 08-15	.00	.00	.00	.00	.00	.00	.00
JUNE 13-20	.00	.00	.00	.00	.00	.00	.00
JULY 06-11	.00	.00	.00	.00	.00	.00	.00
AUG. 18-25	.00	.00	.00	.00	.00	.00	.00
SEPT. 16-22	.00	.00	.00	.00	.00	.00	.00

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
BEAVER RIVER BASIN												
03086500 - MAHONING RIVER AT ALLIANCE, OHIO (LAT 40 55 58 LONG 081 05 41)												
NOV., 1968												
21...	1030	32	--	--	--	36	--	--	--	--	686	--
JAN., 1969												
21...	0950	95	--	--	--	26	--	--	--	--	571	--
MAR.												
11...	1030	18	--	--	--	43	--	--	--	--	748	--
MAY												
21...	0950	65	--	--	--	18	--	--	--	--	576	--
JULY												
17...	1400	9.0	--	--	--	26	--	--	--	--	668	--
SEP.												
22...	1100	7.6	170	0	145	37	6.8	436	286	146	689	7.1
03089500 - MILL CREEK NEAR BERLIN CENTER, OHIO (LAT 41 00 01 LONG 080 58 07)												
NOV., 1968												
21...	1205	3.0	--	--	--	30	--	--	--	--	780	--
JAN., 1969												
21...	1225	12	--	--	--	22	--	--	--	--	480	--
MAR.												
11...	1200	3.4	--	--	--	20	--	--	--	--	667	--
MAY												
21...	1125	6.6	--	--	--	17	--	--	--	--	537	--
JULY												
17...	1145	.35	--	--	--	22	--	--	--	--	819	--
SEP.												
22...	1205	.40	274	0	357	13	.7	784	514	289	1080	7.7
03090500 - MAHONING RIVER BELOW BERLIN DAM, NEAR BERLIN CENTER, OHIO (LAT 41 02 54 LONG 081 00 05)												
JAN., 1969												
14...	1405	84	--	--	--	30	--	--	--	--	566	--
MAR.												
05...	1010	70	--	--	--	27	--	--	--	--	608	--
MAY												
07...	1335	159	--	--	--	26	--	--	--	--	464	--
JUNE												
24...	1055	211	--	--	--	23	--	--	--	--	467	--
AUG.												
20...	1010	91	--	--	--	32	--	--	--	--	501	--
03091500 - MAHONING RIVER AT PRICETOWN, OHIO (LAT 41 07 53 LONG 080 58 17)												
NOV., 1968												
14...	1350	95	--	--	--	26	--	--	--	--	479	--
JAN., 1969												
14...	1035	143	--	--	--	28	--	--	--	--	522	--
MAR.												
05...	1310	46	--	--	--	29	--	--	--	--	534	--
MAY												
07...	1135	133	--	--	--	25	--	--	--	--	476	--
AUG.												
20...	1305	113	--	--	--	32	--	--	--	--	480	--
03092000 - KALE CREEK NEAR PRICETOWN, OHIO (LAT 41 08 23 LONG 080 59 43)												
NOV., 1968												
21...	1350	8.6	--	--	--	26	--	--	--	--	505	--
JAN., 1969												
21...	1340	19	--	--	--	18	--	--	--	--	305	--
MAR.												
11...	1330	2.4	--	--	--	32	--	--	--	--	719	--
MAY												
21...	1315	29	--	--	--	12	--	--	--	--	290	--
JULY												
17...	1030	.75	--	--	--	22	--	--	--	--	654	--
SEP.												
22...	1325	.43	242	0	262	31	1.0	656	396	197	958	7.6
03092090 - WEST BRANCH MAHONING RIVER NEAR RAVENNA, OHIO (LAT 41 09 41 LONG 081 11 50)												
DEC., 1968												
17...	1035	15	--	--	--	28	--	--	--	--	369	--
JAN., 1969												
18...	1605	465	--	--	--	26	--	--	--	--	227	--
FEB.												
17...	1005	8.3	--	--	--	34	--	--	--	--	410	--
APR.												
15...	0945	15	--	--	--	20	--	--	--	--	315	--
JUNE												
10...	1000	4.4	--	--	--	22	--	--	--	--	402	--
AUG.												
13...	1020	3.5	180	0	49	36	2.6	318	204	56	504	7.5

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CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
BEAVER RIVER BASIN--CONTINUED												
03092100 - HINKLEY CREEK NEAR CHARLESTOWN, OHIO (LAT 41 09 10 LONG 081 10 05)												
SEP., 1969												
16...	1240	.22	166	0	53	400	.6	1040	330	194	1720	7.4
03092500 - WEST BRANCH MAHONING RIVER NEAR NEWTON FALLS, OHIO (LAT 41 10 18 LONG 081 01 16)												
DEC., 1968												
03...	1215	208	--	--	--	28	--	--	--	--	388	--
FEB., 1969												
03...	1150	64	--	--	--	26	--	--	--	--	379	--
APR.												
01...	1110	13	--	--	--	32	--	--	--	--	402	--
03093000 - EAGLE CREEK AT PHALANX STATION, OHIO (LAT 41 15 40 LONG 080 57 16)												
DEC., 1968												
17...	1315	98	--	--	--	20	--	--	--	--	322	--
FEB., 1969												
17...	1245	57	--	--	--	24	--	--	--	--	400	--
APR.												
15...	1325	83	--	--	--	18	--	--	--	--	315	--
MAY												
12...	1345	316	--	--	--	15	--	--	--	--	239	--
JUNE												
10...	1350	30	--	--	--	14	--	--	--	--	379	--
AUG., 1969												
13...	1335	14	--	--	--	28	--	--	--	--	342	--
SEP.												
16...	1100	10	--	--	--	27	--	--	--	--	439	--
03095500 - MOSQUITO CREEK BELOW MOSQUITO CREEK DAM, NEAR CORTLAND, OHIO (LAT 41 17 59 LONG 080 45 31)												
NOV., 1968												
21...	1400	26	--	--	--	16	--	--	--	--	234	--
JAN., 1969												
17...	0845	36	--	--	--	16	--	--	--	--	237	--
MAR.												
14...	1215	14	--	--	--	14	--	--	--	--	227	--
MAY												
16...	1145	92	--	--	--	13	--	--	--	--	203	--
JULY												
23...	1000	43	--	--	--	12	--	--	--	--	202	--
SEP.												
25...	0900	79	--	--	--	16	--	--	--	--	211	--
03098000 - MAHONING RIVER AT YOUNGSTOWN, OHIO (LAT 41 06 40 LONG 080 40 23)												
OCT., 1968												
01...	1200	314	108	0	90	56	--	346	200	112	558	7.1
DEC.												
02...	1200	1200	--	--	--	24	--	--	--	--	369	--
FEB., 1969												
03...	1230	1180	--	--	--	32	--	--	--	--	382	--
APR.												
01...	1110	400	--	--	--	55	--	--	--	--	520	--
JUNE												
02...	1110	436	--	--	--	47	--	--	--	--	539	--
JULY												
31...	1100	491	--	--	--	32	--	--	--	--	444	--
03098500 - MILL CREEK AT YOUNGSTOWN, OHIO (LAT 41 04 19 LONG 080 41 26)												
OCT., 1968												
01...	1325	2.9	162	0	136	40	--	432	238	105	658	7.7
DEC.												
02...	1330	42	--	--	--	52	--	--	--	--	702	--
FEB., 1969												
03...	1330	135	--	--	--	36	--	--	--	--	456	--
APR.												
01...	1300	31	--	--	--	66	--	--	--	--	664	--
JUNE												
02...	1300	7.8	--	--	--	42	--	--	--	--	661	--
JULY												
31...	1330	12	--	--	--	36	--	--	--	--	639	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
BEAVER RIVER BASIN--CONTINUED												
03099500 - MAHONING RIVER AT LOWELLVILLE, OHIO (LAT 41 01 12 LONG 080 32 11)												
OCT., 1968												
01...	1050	361	72	0	138	66	--	410	210	151	675	6.5
JAN., 1969												
06...	1220	1370	--	--	--	40	--	--	--	--	480	--
MAR.												
03...	1115	355	--	--	--	82	--	--	--	--	827	--
MAY												
01...	1150	1060	--	--	--	48	--	--	--	--	495	--
JULY												
01...	1100	573	--	--	--	87	--	--	--	--	632	--
31...	1415	--	--	--	--	--	--	368	--	--	564	7.0
03102950 - PYMATUNING CREEK AT KINSMAN, OHIO (LAT 41 26 34 LONG 080 35 18)												
NOV., 1968												
21...	1130	248	--	--	--	18	--	--	--	--	268	--
JAN., 1969												
17...	1100	37	--	--	--	16	--	--	--	--	315	--
MAR.												
14...	1005	25	--	--	--	14	--	--	--	--	302	--
MAY												
16...	1030	112	--	--	--	9.0	--	--	--	--	215	--
JULY												
23...	1110	94	--	--	--	10	--	--	--	--	255	--
SEP.												
25...	1200	6.8	150	0	31	13	1.6	192	161	38	350	7.2
LITTLE BEAVER CREEK BASIN												
03109500 - LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OHIO (LAT 40 40 33 LONG 080 32 27)												
NOV., 1968												
25...	1120	188	--	--	--	26	--	--	--	--	623	--
DEC.												
26...	--	182	--	--	--	34	--	--	--	--	614	--
FEB., 1969												
25...	1135	263	--	--	--	22	--	--	--	--	645	--
MAR.												
25...	1135	422	--	--	--	26	--	--	--	--	580	--
APR.												
25...	1145	570	--	--	--	22	--	--	--	--	518	--
MAY												
26...	1040	269	--	--	--	18	--	--	--	--	576	--
JUNE												
25...	1320	157	--	--	--	22	--	--	--	--	710	--
AUG.												
25...	1045	76	--	--	--	42	--	--	--	--	702	--
SEP.												
25...	1050	44	162	0	243	36	1.7	542	370	237	836	7.9
YELLOW CREEK BASIN												
03110000 - YELLOW CREEK NEAR HAMMONDSVILLE, OHIO (LAT 40 32 16 LONG 080 43 31)												
NOV., 1968												
25...	1350	22	--	--	--	32	--	--	--	--	674	--
DEC.												
26...	--	60	--	--	--	20	--	--	--	--	510	--
JAN., 1969												
27...	--	106	--	--	--	14	--	--	--	--	428	--
FEB.												
25...	1400	61	--	--	--	16	--	--	--	--	480	--
MAR.												
25...	1400	134	--	--	--	18	--	--	--	--	495	--
APR.												
25...	1430	148	--	--	--	10	--	--	--	--	369	--
MAY												
26...	1425	58	--	--	--	13	--	--	--	--	450	--
JUNE												
25...	1030	54	--	--	--	15	--	--	--	--	454	--
AUG.												
25...	1400	82	--	--	--	24	--	--	--	--	495	--
SEP.												
15...	1130	15	--	--	--	44	--	--	--	--	794	--
25...	1430	13	50	0	299	37	.3	542	284	243	823	7.7
03110600 - NORTH FORK YELLOW CREEK AT HAMMONDSVILLE, OHIO (LAT 40 33 25 LONG 080 42 20)												
SEP., 1969												
15...	1010	3.1	66	0	276	28	.4	564	260	206	758	7.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
CROSS CREEK BASIN												
03111000 - CROSS CREEK AT MINGO JUNCTION, OHIO (LAT 40 18 55 LONG 080 36 45)												
SEP., 1969												
15...	1320	20	106	0	850	15	.2	1400	968	881	1570	7.4
SHORT CREEK BASIN												
03111500 - SHORT CREEK NEAR DILLONVALE, OHIO (LAT 40 11 36 LONG 080 44 04)												
NOV., 1968												
18...	1025	61	--	--	--	88	--	--	--	--	2330	--
JAN., 1969												
09...	--	60	--	--	--	76	--	--	--	--	2310	--
MAR.												
06...	1115	52	--	--	--	72	--	--	--	--	2372	--
MAY												
09...	1125	342	--	--	--	37	--	--	--	--	1300	--
JULY												
16...	1120	63	--	--	--	64	--	--	--	--	2220	--
SEP.												
15...	1025	30	--	--	--	106	--	--	--	--	2590	--
WHEELING CREEK BASIN												
03111550 - WHEELING CREEK AT BROOKSIDE, OHIO (LAT 40 04 05 LONG 080 46 50)												
SEP., 1969												
15...	1140	19	110	0	1610	16	.5	2450	1040	950	2720	7.8
CAPTINA CREEK BASIN												
03114000 - CAPTINA CREEK AT ARMSTRONGS MILLS, OHIO (LAT 39 54 31 LONG 080 55 27)												
OCT., 1968												
14...	1405	11	186	8	51	16	--	276	210	44	458	8.4
DEC.												
09...	1400	120	--	--	--	8.0	--	--	--	--	339	--
FEB., 1969												
05...	1410	212	--	--	--	8.0	--	--	--	--	307	--
APR.												
16...	1330	153	--	--	--	8.0	--	--	--	--	326	--
JUNE												
24...	1230	62	--	--	--	8.0	--	--	--	--	363	--
AUG.												
28...	1345	8.2	--	--	--	22	--	--	--	--	439	--
SEP.												
17...	1050	2.9	182	0	61	16	.6	278	208	59	465	7.8
LITTLE MUSKINGUM RIVER BASIN												
03115400 - LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OHIO (LAT 39 33 47 LONG 081 12 14)												
OCT., 1968												
14...	1115	23	146	0	28	142	--	462	242	123	752	7.8
DEC.												
09...	1130	136	--	--	--	32	--	--	--	--	352	--
FEB., 1969												
05...	1115	326	--	--	--	20	--	--	--	--	291	--
APR.												
16...	1115	214	--	--	--	31	--	--	--	--	403	--
JUNE												
23...	1250	9.8	--	--	--	56	--	--	--	--	496	--
AUG.												
28...	1100	2.2	--	--	--	58	--	--	--	--	377	--
SEP.												
17...	1245	.32	128	0	24	54	1.0	230	148	43	423	7.4
DUCK CREEK BASIN												
03115700 - WEST FORK DUCK CREEK AT DEXTER CITY, OHIO (LAT 39 39 45 LONG 081 18 25)												
SEP., 1969												
17...	0955	1.4	192	0	169	38	1.0	466	348	190	740	7.2
03115800 - DUCK CREEK AT STANLEYVILLE, OHIO (LAT 39 28 15 LONG 081 24 40)												
SEP., 1969												
17...	1100	3.9	3	0	710	36	.3	1110	700	698	1310	5.0
MUSKINGUM RIVER BASIN												
03115900 - TUSCARAWAS RIVER NEAR EAST LIBERTY, OHIO (LAT 41 00 30 LONG 081 29 30)												
SEP., 1969												
15...	--	11	212	0	76	20	2.7	362	206	32	535	7.4

CHEMICAL ANALYSES WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03116000 - TUSCARAWAS RIVER AT CLINTON, OHIO (LAT 40 55 40 LONG 081 37 58)												
NOV., 1968												
26...	1155	111	--	--	--	4100	--	--	--	--	12000	--
DEC.												
28...	1200	1060	--	--	--	1240	--	--	--	--	4070	--
JAN., 1969												
22...	1210	208	--	--	--	3720	--	--	--	--	10900	--
MAR.												
19...	1110	92	--	--	--	3240	--	--	--	--	9750	--
MAY												
22...	1410	372	--	--	--	1240	--	--	--	--	4120	--
SEP.												
16...	0950	74	206	0	360	4450	34	9060	3740	3570	14300	7.0
03116100 - LITTLE CHIPPEWA CREEK NEAR SMITHVILLE, OHIO (LAT 40 58 40 LONG 081 48 50)												
SEP., 1969												
15...	--	2.3	270	8	132	54	6.6	596	360	125	881	8.4
03116200 - CHIPPEWA CREEK AT EASTON, OHIO (LAT 40 56 47 LONG 081 44 35)												
NOV., 1968												
26...	0950	74	--	--	--	90	--	--	--	--	816	--
JAN., 1969												
22...	1050	195	--	--	--	64	--	--	--	--	592	--
MAR.												
19...	1000	41	--	--	--	343	--	--	--	--	1710	--
MAY												
22...	1145	942	--	--	--	92	--	--	--	--	575	--
SEP.												
15...	1135	9.3	388	0	222	280	38	1100	388	70	1870	7.3
03117000 - TUSCARAWAS RIVER AT MASSILLON, OHIO (LAT 40 46 13 LONG 081 31 27)												
NOV., 1968												
26...	1455	294	--	--	--	1320	--	--	--	--	4540	--
DEC.												
28...	1455	2480	--	--	--	148	--	--	--	--	808	--
JAN., 1969												
22...	1435	575	--	--	--	1080	--	--	--	--	3710	--
MAR.												
19...	1340	190	--	--	--	1675	--	--	--	--	5490	--
MAY												
23...	1050	1900	--	--	--	388	--	--	--	--	1580	--
SEP.												
16...	1330	121	--	--	--	2500	--	--	--	--	6620	--
03117500 - SANDY CREEK AT WAYNESBURG, OHIO (LAT 40 40 21 LONG 081 15 36)												
DEC., 1968												
10...	--	85	--	--	--	14	--	--	--	--	366	--
FEB., 1969												
06...	--	270	--	--	--	12	--	--	--	--	295	--
JUNE												
04...	1525	94	--	--	--	14	--	--	--	--	404	--
JULY												
06...	1005	1620	--	--	--	16	--	--	--	--	205	--
SEP.												
08...	1500	62	--	--	--	22	--	--	--	--	477	--
03118000 - MIDDLE BRANCH NIMISHILLEN CREEK AT CANTON, OHIO (LAT 40 50 29 LONG 081 21 14)												
DEC., 1968												
11...	1135	14	--	--	--	44	--	--	--	--	838	--
FEB., 1969												
06...	--	38	--	--	--	44	--	--	--	--	706	--
JUNE												
04...	0945	22	--	--	--	42	--	--	--	--	768	--
JULY												
06...	1400	164	--	--	--	30	--	--	--	--	552	--
SEP.												
08...	1015	7.7	256	0	114	40	3.3	466	336	126	738	7.8
03118500 - NIMISHILLEN CREEK AT NORTH INDUSTRY, OHIO (LAT 40 44 03 LONG 081 21 08)												
JULY, 1969												
05...	1415	2380	--	--	--	34	--	--	--	--	342	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03119700 - CONOTTON CREEK AT JEWETT, OHIO (LAT 40 21 55 LONG 081 00 15)												
SEP., 1969 15...	1500	2.1	162	0	518	16	3.1	966	680	547	1200	7.5
03120500 - MCGUIRE CREEK BELOW LEESVILLE DAM, NEAR LEESVILLE, OHIO (LAT 40 28 13 LONG 081 11 48)												
DEC., 1968 05...	1235	72	--	--	--	6.0	--	--	--	--	169	--
JAN., 1969 30...	1245	.79	--	--	--	2.0	--	--	--	--	133	--
MAR. 26...	1125	2.3	--	--	--	7.0	--	--	--	--	168	--
MAY 28...	1310	11	--	--	--	6.0	--	--	--	--	173	--
SEP. 23...	1335	3.7	58	0	27	6.4	1.9	106	77	30	182	7.5
03121500 - INDIAN FORK BELOW ATWOOD DAM, NEAR NEW CUMBERLAND, OHIO (LAT 40 31 31 LONG 081 17 18)												
DEC., 1968 05...	1425	23	--	--	--	20	--	--	--	--	249	--
JAN., 1969 31...	--	120	--	--	--	18	--	--	--	--	208	--
MAR. 26...	1335	3.8	--	--	--	22	--	--	--	--	257	--
MAY 28...	1440	26	--	--	--	22	--	--	--	--	260	--
SEP. 23...	1500	7.5	54	0	39	24	2.3	162	90	46	266	7.7
03122500 - TUSCARAWAS RIVER BELOW DOVER DAM, NEAR DOVER, OHIO (LAT 40 31 47 LONG 081 25 48)												
NOV., 1968 25...	1310	1060	--	--	--	280	--	--	--	--	1260	--
DEC. 26...	--	1500	--	--	--	480	--	--	--	--	1970	--
JAN., 1969 27...	--	1100	--	--	--	400	--	--	--	--	1690	--
FEB. 25...	1420	836	--	--	--	384	--	--	--	--	1770	--
MAR. 25...	1315	1350	--	--	--	355	--	--	--	--	1750	--
APR. 25...	1235	1960	--	--	--	560	--	--	--	--	2160	--
MAY 26...	1230	1170	--	--	--	450	--	--	--	--	1910	--
JUNE 25...	1135	820	--	--	--	482	--	--	--	--	2020	--
AUG. 25...	1000	796	--	--	--	780	--	--	--	--	2770	--
SEP. 25...	1310	456	154	0	197	820	12	2020	904	778	3170	7.0
03123000 - SUGAR CREEK ABOVE BEACH CITY DAM, AT BEACH CITY, OHIO (LAT 40 39 24 LONG 081 34 37)												
JAN., 1969 06...	--	70	--	--	--	26	--	--	--	--	508	--
FEB. 11...	1235	150	--	--	--	26	--	--	--	--	445	--
APR. 11...	1300	206	--	--	--	22	--	--	--	--	422	--
JUNE 05...	1255	59	--	--	--	25	--	--	--	--	501	--
JULY 05...	1255	7570	--	--	--	7.0	--	--	--	--	124	--
SEP. 19...	1330	41	178	4	76	42	.1	320	238	86	525	8.3
03124000 - SUGAR CREEK BELOW BEACH CITY DAM, NEAR BEACH CITY, OHIO (LAT 40 38 08 LONG 081 33 11)												
JAN., 1969 06...	0915	132	--	--	--	20	--	--	--	--	587	--
FEB. 11...	0930	368	--	--	--	22	--	--	--	--	516	--
APR. 11...	0925	429	--	--	--	16	--	--	--	--	469	--
JUNE 05...	1105	112	--	--	--	26	--	--	--	--	679	--
JULY 07...	1145	7180	--	--	--	4.0	--	--	--	--	150	--
SEP. 19...	1035	78	114	0	321	24	3.5	500	428	334	854	7.1

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03124500 - SUGAR CREEK AT STRASBURG, OHIO (LAT 40 35 15 LONG 081 31 24)												
NOV., 1968												
25...	0910	55	--	--	--	32	--	--	--	--	694	--
DEC.												
26...	1000	175	--	--	--	30	--	--	--	--	613	--
JAN., 1969												
27...	0950	212	--	--	--	22	--	--	--	--	517	--
FEB.												
25...	1000	137	--	--	--	18	--	--	--	--	646	--
MAR.												
25...	0920	240	--	--	--	18	--	--	--	--	659	--
APR.												
25...	1000	314	--	--	--	20	--	--	--	--	526	--
MAY												
26...	0935	143	--	--	--	20	--	--	--	--	581	--
JUNE												
25...	0850	157	--	--	--	19	--	--	--	--	655	--
JULY												
08...	1630	6150	--	--	--	4.0	--	--	--	--	130	--
SEP.												
25...	1025	49	120	0	351	26	2.7	682	466	367	919	7.2
03125000 - HOME CREEK NEAR NEW PHILADELPHIA, OHIO (LAT 40 28 06 LONG 081 24 10)												
NOV., 1968												
27...	1510	.06	--	--	--	24	--	--	--	--	1180	--
JAN., 1969												
30...	1440	16	--	--	--	16	--	--	--	--	378	--
MAR.												
26...	1535	1.4	--	--	--	20	--	--	--	--	613	--
MAY												
15...	1425	.29	--	--	--	22	--	--	--	--	797	--
28...	0800	.26	--	--	--	10	--	--	--	--	616	--
JULY												
22...	0925	4.0	--	--	--	8.0	--	--	--	--	516	--
SEP.												
23...	0930	.04	46	0	514	28	5.1	876	572	534	1130	6.7
03126000 - STILLWATER CREEK AT PIEDMONT, OHIO (LAT 40 11 41 LONG 081 12 56)												
JAN., 1969												
09...	1310	78	--	--	--	12	--	--	--	--	784	--
MAR.												
06...	1305	16	--	--	--	13	--	--	--	--	1470	--
MAY												
09...	1525	410	--	--	--	7.0	--	--	--	--	624	--
JULY												
16...	1530	387	--	--	--	10	--	--	--	--	689	--
SEP.												
16...	1300	11	160	0	658	14	2.5	1100	784	652	1380	8.1
03127000 - STILLWATER CREEK AT TIPPECANOE, OHIO (LAT 40 16 13 LONG 081 17 26)												
NOV., 1968												
18...	1020	518	--	--	--	8.0	--	--	--	--	630	--
JAN., 1969												
09...	1530	130	--	--	--	8.0	--	--	--	--	641	--
MAR.												
06...	1535	43	--	--	--	10	--	--	--	--	792	--
MAY												
14...	1430	651	--	--	--	8.0	--	--	--	--	588	--
JULY												
18...	1100	824	--	--	--	6.0	--	--	--	--	667	--
SEP.												
16...	1500	19	142	0	405	11	2.2	718	518	401	980	7.4
03127500 - STILLWATER CREEK AT UHRICHSVILLE, OHIO (LAT 40 23 10 LONG 081 20 50)												
NOV., 1968												
26...	1415	428	--	--	--	8.0	--	--	--	--	540	--
JAN., 1969												
21...	1605	643	--	--	--	10	--	--	--	--	425	--
MAR.												
21...	1415	53	--	--	--	16	--	--	--	--	774	--
MAY												
22...	1115	298	--	--	--	10	--	--	--	--	590	--
SEP.												
19...	1045	22	130	0	393	24	1.7	714	486	379	986	7.3

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03128500 - LITTLE STILLWATER CREEK BELOW TAPPAN DAM, AT TAPPAN, OHIO (LAT 40 21 25 LONG 081 13 49)												
DEC., 1968												
05...	0935	2.6	--	--	--	8.0	--	--	--	--	611	--
JAN., 1969												
30...	1050	13	--	--	--	12	--	--	--	--	681	--
MAR.												
26...	0905	1.8	--	--	--	10	--	--	--	--	596	--
MAY												
28...	1050	5.5	--	--	--	10	--	--	--	--	611	--
SEP.												
23...	1155	3.1	82	0	197	9.2	3.0	352	274	207	567	7.0
03129000 - TUSCARAWAS RIVER AT NEWCOMERSTOWN, OHIO (LAT 40 15 41 LONG 081 36 33)												
NOV., 1968												
01...	1455	442	--	--	--	700	--	--	--	--	2800	--
JAN., 1969												
03...	1050	6110	--	--	--	170	--	--	--	--	970	--
31...	1100	8360	--	--	--	148	--	--	--	--	876	--
FEB.												
28...	1520	1140	--	--	--	345	--	--	--	--	1700	--
MAY												
01...	1410	1990	--	--	--	195	--	--	--	--	1120	--
JULY												
01...	1445	722	--	--	--	400	--	--	--	--	1740	--
SEP.												
02...	1545	930	--	--	--	400	--	--	--	--	1850	--
03130000 - BLACK FORK BELOW CHARLES MILL DAM, NEAR MIFFLIN, OHIO (LAT 40 44 16 LONG 082 21 48)												
DEC., 1968												
10...	1330	220	--	--	--	24	--	--	--	--	537	--
MAR., 1969												
05...	1230	142	--	--	--	21	--	--	--	--	507	--
APR.												
22...	1520	1000	--	--	--	9.0	--	--	--	--	293	--
MAY												
23...	1215	1050	--	--	--	8.0	--	--	--	--	286	--
JUNE												
09...	1340	160	--	--	--	10	--	--	--	--	392	--
AUG.												
06...	1500	87	--	--	--	16	--	--	--	--	382	--
SEP.												
17...	1355	55	--	--	--	16	--	--	--	--	403	--
30...	1030	43	178	0	65	16	3.3	298	214	68	465	7.4
03130500 - TOUBY RUN AT MANSFIELD, OHIO (LAT 40 45 53 LONG 082 32 43)												
JAN., 1969												
02...	--	2.2	--	--	--	72	--	--	--	--	757	--
FEB.												
26...	1330	4.6	--	--	--	488	--	--	--	--	2000	--
APR.												
30...	1230	5.0	--	--	--	32	--	--	--	--	496	--
JUNE												
24...	1145	1.0	--	--	--	75	--	--	--	--	718	--
AUG.												
06...	1130	.44	--	--	--	200	--	--	--	--	1260	--
03131200 - ROCKY FORK AT MELCO, OHIO (LAT 40 41 55 LONG 082 21 35)												
SEP., 1969												
30...	1050	35	228	0	83	46	16	406	256	68	699	7.3
03131300 - BLACK FORK AT MELCO, OHIO (LAT 40 41 55 LONG 082 21 35)												
SEP., 1969												
30...	1255	82	202	0	70	28	9.0	324	230	64	550	7.4
03132000 - CLEAR FORK AT BUTLER, OHIO (LAT 40 35 37 LONG 082 25 20)												
DEC., 1968												
05...	1050	187	--	--	--	11	--	--	--	--	324	--
JAN., 1969												
29...	1430	839	--	--	--	16	--	--	--	--	236	--
MAR.												
12...	1440	64	--	--	--	14	--	--	--	--	406	--
MAY												
06...	1525	109	--	--	--	12	--	--	--	--	397	--
JUNE												
30...	1430	71	--	--	--	11	--	--	--	--	431	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03133500 - CLEAR FORK BELOW PLEASANT HILL DAM, NEAR PERRYSVILLE, OHIO (LAT 40 37 13 LONG 082 19 28)												
DEC., 1968												
05...	1320	394	--	--	--	14	--	--	--	--	387	--
JAN., 1969												
29...	1100	182	--	--	--	16	--	--	--	--	282	--
MAR.												
12...	1215	26	--	--	--	14	--	--	--	--	327	--
MAY												
06...	1300	190	--	--	--	10	--	--	--	--	286	--
JUNE												
30...	1200	130	--	--	--	10	--	--	--	--	332	--
03135000 - LAKE FORK BELOW MOHICANVILLE DAM, NEAR MOHICANVILLE, OHIO (LAT 40 43 24 LONG 082 09 18)												
DEC., 1968												
10...	1100	79	--	--	--	48	--	--	--	--	666	--
MAR., 1969												
05...	1100	88	--	--	--	36	--	--	--	--	589	--
APR.												
22...	1215	1080	--	--	--	16	--	--	--	--	336	--
JUNE												
09...	1135	136	--	--	--	26	--	--	--	--	523	--
AUG.												
06...	1030	132	--	--	--	28	--	--	--	--	478	--
SEP.												
17...	1145	44	226	0	69	32	8.5	352	257	72	605	7.4
03136000 - MOHICAN RIVER AT GREER, OHIO (LAT 40 30 53 LONG 082 11 44)												
NOV., 1968												
20...	1035	536	--	--	--	26	--	--	--	--	533	--
JAN., 1969												
24...	1400	1940	--	--	--	22	--	--	--	--	385	--
APR.												
25...	1300	3760	--	--	--	15	--	--	--	--	324	--
JUNE												
12...	1320	546	--	--	--	18	--	--	--	--	455	--
SEP.												
18...	1110	685	--	--	--	31	--	--	--	--	454	--
03136500 - KOKOSING RIVER AT MOUNT VERNON, OHIO (LAT 40 24 20 LONG 082 30 00)												
JAN., 1969												
02...	1740	254	--	--	--	20	--	--	--	--	446	--
FEB.												
27...	0940	136	--	--	--	19	--	--	--	--	483	--
APR.												
30...	1655	258	--	--	--	14	--	--	--	--	422	--
JUNE												
25...	1330	887	--	--	--	16	--	--	--	--	381	--
AUG.												
06...	1500	78	--	--	--	16	--	--	--	--	502	--
03137000 - KOKOSING RIVER AT MILLWOOD, OHIO (LAT 40 23 51 LONG 082 17 09)												
FEB., 1969												
27...	1230	319	--	--	--	18	--	--	--	--	436	--
MAY												
01...	1120	515	--	--	--	14	--	--	--	--	386	--
JUNE												
25...	1700	1740	--	--	--	14	--	--	--	--	351	--
AUG.												
07...	1155	186	--	--	--	16	--	--	--	--	459	--
03138500 - WALHONDING RIVER BELOW MOHAWK DAM, AT NELLIE, OHIO (LAT 40 20 29 LONG 082 03 56)												
NOV., 1968												
20...	1450	898	--	--	--	26	--	--	--	--	501	--
JAN., 1969												
25...	1105	2960	--	--	--	22	--	--	--	--	377	--
MAR.												
11...	1455	623	--	--	--	24	--	--	--	--	508	--
APR.												
29...	1450	3590	--	--	--	16	--	--	--	--	358	--
JUNE												
12...	1045	845	--	--	--	38	--	--	--	--	440	--
SEP.												
19...	1100	682	186	0	54	26	6.6	280	212	60	491	7.4

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03139000 - KILLBUCK CREEK AT KILLBUCK, OHIO (LAT 40 29 41 LONG 081 59 12)												
NOV., 1968												
20...	1230	141	--	--	--	34	--	--	--	--	574	--
APR., 1969												
29...	1110	616	--	--	--	26	--	--	--	--	432	--
JUNE												
12...	1520	173	--	--	--	24	--	--	--	--	502	--
SEP.												
18...	1510	247	--	--	--	32	--	--	--	--	531	--
03140000 - MILL CREEK NEAR COSHOCTON, OHIO (LAT 40 21 46 LONG 081 51 45)												
DEC., 1968												
02...	0920	12	--	--	--	12	--	--	--	--	316	--
APR., 1969												
02...	1345	24	--	--	--	8.5	--	--	--	--	257	--
JUNE												
05...	1410	6.1	--	--	--	8.0	--	--	--	--	307	--
JULY												
05...	1330	2670	--	--	--	4.0	--	--	--	--	184	--
AUG.												
01...	1010	31	--	--	--	6.0	--	--	--	--	262	--
SEP.												
24...	1400	2.1	118	0	46	15	1.1	192	134	38	340	7.5
03140500 - MUSKINGUM RIVER NEAR COSHOCTON, OHIO (LAT 40 14 54 LONG 081 52 23)												
DEC., 1968												
02...	1125	3920	--	--	--	90	--	--	--	--	716	--
JAN., 1969												
31...	1415	17800	--	--	--	70	--	--	--	--	521	--
APR.												
01...	1155	3860	--	--	--	92	--	--	--	--	705	--
JUNE												
05...	1215	3900	--	--	--	162	--	--	--	--	948	--
03140700 - BUFFALO FORK (HEAD OF WILLS CREEK) AT PLEASANT CITY, OHIO (LAT 39 54 10 LONG 081 33 15)												
SEP., 1969												
15...	--	2.3	176	0	920	27	.3	1510	1050	886	1800	7.5
03140800 - BUFFALO CREEK AT PLEASANT CITY, OHIO (LAT 39 54 10 LONG 081 33 00)												
SEP., 1969												
15...	1500	.05	222	0	136	34	8.0	366	286	104	733	7.3
03141500 - SENECA FORK BELOW SENECAVILLE DAM, NEAR SENECAVILLE, OHIO (LAT 39 55 28 LONG 081 26 17)												
OCT., 1968												
11...	1000	2.7	138	0	41	4.0	--	208	158	45	314	7.8
DEC.												
17...	1020	2.7	--	--	--	4.0	--	--	--	--	356	--
FEB., 1969												
14...	1110	495	--	--	--	6.0	--	--	--	--	334	--
JUNE												
10...	1015	4.9	--	--	--	4.0	--	--	--	--	363	--
AUG.												
11...	1215	2.9	138	0	46	5.0	1.9	202	162	49	329	8.2
03142000 - WILLS CREEK AT CAMBRIDGE, OHIO (LAT 40 00 52 LONG 081 35 14)												
OCT., 1968												
11...	1150	23	138	4	373	22	--	722	482	362	966	8.3
DEC.												
17...	1230	90	--	--	--	16	--	--	--	--	705	--
FEB., 1969												
14...	1345	755	--	--	--	8.0	--	--	--	--	456	--
JUNE												
10...	1230	43	--	--	--	48	--	--	--	--	960	--
AUG.												
11...	1405	131	--	--	--	26	--	--	--	--	910	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
MUSKINGUM RIVER BASIN--CONTINUED												
03143500 - WILLS CREEK BELOW WILLS CREEK DAM, AT WILLS CREEK, OHIO (LAT 40 09 34 LONG 081 50 51)												
DEC., 1968												
02...	1350	822	--	--	--	10	--	--	--	--	429	--
FEB., 1969												
03...	1205	4240	--	--	--	8.0	--	--	--	--	298	--
APR.												
01...	1500	543	--	--	--	22	--	--	--	--	484	--
JUNE												
02...	1530	264	--	--	--	10	--	--	--	--	450	--
AUG.												
01...	1410	1800	--	--	--	8.0	--	--	--	--	387	--
03144000 - WAKATOMIKA CREEK NEAR FRAZEYSBURG, OHIO (LAT 40 07 57 LONG 082 08 53)												
JAN., 1969												
03...	--	120	--	--	--	50	--	--	--	--	316	--
FEB.												
27...	1550	72	--	--	--	47	--	--	--	--	329	--
MAY												
01...	1530	89	--	--	--	40	--	--	--	--	298	--
JUNE												
26...	1450	610	--	--	--	30	--	--	--	--	230	--
AUG.												
07...	1450	63	--	--	--	44	--	--	--	--	324	--
03144500 - MUSKINGUM RIVER AT DRESDEN, OHIO (LAT 40 07 13 LONG 081 59 59)												
NOV., 1968												
01...	1130	1000	--	--	--	276	--	--	--	--	1510	--
MAY , 1969												
01...	1230	7130	--	--	--	132	--	--	--	--	830	--
SEP.												
02...	1030	1990	--	--	--	189	--	--	--	--	1120	--
03147500 - LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OHIO (LAT 39 59 18 LONG 082 04 50)												
AUG., 1969												
08...	1020	248	--	--	--	26	--	--	--	--	478	--
03147900 - TIMBER RUN NEAR ZANESVILLE, OHIO (LAT 39 57 00 LONG 082 03 07)												
SEP., 1969												
16...	1430	.08	138	0	47	79	.5	320	175	62	579	8.2
03148300 - MOXAHALA CREEK AT ROSEVILLE, OHIO (LAT 39 48 40 LONG 082 04 10)												
SEP., 1969												
16...	1800	11	0	0	1880	30	.7	2620	1460	1460	3380	2.8
03148400 - MOXAHALA CREEK AT ROBERTS, OHIO (LAT 39 51 20 LONG 082 03 25)												
SEP., 1969												
16...	1920	13	0	0	1730	34	.3	2320	1090	1090	3190	2.8
03148600 - MOXAHALA CREEK NEAR ZANESVILLE, OHIO (LAT 39 53 45 LONG 082 00 20)												
SEP., 1969												
16...	1640	21	0	0	1200	61	.5	1800	972	972	2370	3.2
03149500 - SALT CREEK NEAR CHANDLERSVILLE, OHIO (LAT 39 54 31 LONG 081 51 36)												
SEP., 1969												
16...	1300	1.6	134	0	44	22	.6	210	157	47	381	7.2
03150000 - MUSKINGUM RIVER AT MCCONNELSVILLE, OHIO (LAT 39 38 42 LONG 081 51 00)												
JAN., 1969												
07...	1330	6300	--	--	--	76	--	--	--	--	649	--
FEB.												
14...	1005	9630	--	--	--	54	--	--	--	--	548	--
APR.												
17...	1100	6210	--	--	--	154	--	--	--	--	904	--
JUNE												
19...	1110	3400	--	--	--	126	--	--	--	--	903	--
AUG.												
05...	1150	12000	--	--	--	42	--	--	--	--	496	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
LITTLE HOCKING RIVER BASIN												
03155800 - LITTLE HOCKING RIVER NEAR LITTLE HOCKING, OHIO (LAT 39 17 35 LONG 081 41 15)												
OCT., 1968												
10...	0930	.72	150	0	43	10	--	210	145	22	363	7.3
SEP., 1969												
16...	1450	.23	144	0	50	14	2.8	246	166	48	384	7.4
HOCKING RIVER BASIN												
03156000 - HUNTERS RUN AT LANCASTER, OHIO (LAT 39 41 57 LONG 082 37 18)												
OCT., 1968												
07...	1030	2.2	264	0	55	16	--	322	274	57	558	8.1
NOV.												
26...	1330	2.0	--	--	--	14	--	--	--	--	498	--
JAN., 1969												
17...	1045	4.0	--	--	--	14	--	--	--	--	577	--
MAR.												
11...	1000	6.3	--	--	--	17	--	--	--	--	600	--
MAY												
05...	1045	6.8	--	--	--	12	--	--	--	--	565	--
AUG.												
12...	1020	15	--	--	--	8.0	--	--	--	--	405	--
03156400 - HOCKING RIVER AT LANCASTER, OHIO (LAT 39 42 24 LONG 082 36 03)												
OCT., 1968												
07...	1130	10	314	0	69	650	--	1710	910	652	2570	7.7
NOV.												
26...	1040	10	--	--	--	42	--	--	--	--	754	--
JAN., 1969												
17...	1220	20	--	--	--	425	--	--	--	--	1880	--
MAR.												
11...	1120	21	--	--	--	725	--	--	--	--	2810	--
MAY												
05...	1220	17	--	--	--	660	--	--	--	--	2560	--
AUG.												
12...	1150	60	--	--	--	10	--	--	--	--	444	--
03156700 - RUSH CREEK NEAR SUGAR GROVE, OHIO (LAT 39 38 15 LONG 082 30 40)												
OCT., 1968												
08...	1500	27	0	0	820	105	--	1420	736	736	1710	4.2
SEP., 1969												
16...	1040	16	0	0	1080	85	.3	1570	486	486	2360	2.8
03157000 - CLEAR CREEK NEAR ROCKBRIDGE, OHIO (LAT 39 35 18 LONG 082 34 43)												
OCT., 1968												
08...	1345	20	192	2	27	6.0	--	240	183	22	372	8.3
NOV.												
27...	1030	20	--	--	--	7.0	--	--	--	--	412	--
JAN., 1969												
06...	--	46	--	--	--	8.0	--	--	--	--	479	--
MAR.												
11...	1320	32	--	--	--	8.0	--	--	--	--	416	--
MAY												
05...	1435	47	--	--	--	6.0	--	--	--	--	370	--
JULY												
02...	1145	45	--	--	--	8.0	--	--	--	--	458	--
AUG.												
12...	1420	94	--	--	--	8.0	--	--	--	--	504	--
03157500 - HOCKING RIVER AT ENTERPRISE, OHIO (LAT 39 33 45 LONG 082 28 30)												
OCT., 1968												
07...	1500	92	202	0	138	95	--	548	308	142	915	7.4
DEC.												
02...	1440	195	--	--	--	76	--	--	--	--	706	--
JAN., 1969												
16...	--	100	--	--	--	68	--	--	--	--	785	--
MAR.												
10...	1530	190	--	--	--	55	--	--	--	--	647	--
MAY												
08...	1355	242	--	--	--	49	--	--	--	--	595	--
JULY												
01...	1440	251	--	--	--	45	--	--	--	--	617	--
AUG.												
22...	1115	119	--	--	--	44	--	--	--	--	690	--

CHEMICAL ANALYSES, WATER OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
HOCKING RIVER BASIN--CONTINUED												
03158200 - MUNDAY CREEK AT DOANVILLE, OHIO (LAT 39 26 10 LONG 082 11 30)												
OCT., 1968												
08...	1115	34	0	0	910	110	--	1440	684	684	2160	3.2
SEP., 1969												
16...	1145	3.9	86	0	368	49	5.8	656	478	407	962	7.7
03159000 - SUNDAY CREEK AT GLOUSTER, OHIO (LAT 39 30 03 LONG 082 05 07)												
OCT., 1968												
09...	1000	9.6	0	0	1590	69	--	2210	810	810	3560	2.6
NOV.												
29...	1313	292	--	--	--	26	--	--	--	--	301	--
JAN., 1969												
13...	1245	21	--	--	--	68	--	--	--	--	1160	--
MAR.												
10...	1230	25	--	--	--	30	--	--	--	--	1740	--
MAY												
06...	1350	38	--	--	--	42	--	--	--	--	1410	--
JULY												
03...	1130	40	--	--	--	35	--	--	--	--	1330	--
03159500 - HOCKING RIVER AT ATHENS, OHIO (LAT 39 19 45 LONG 082 05 17)												
OCT., 1968												
08...	1000	166	68	0	330	120	--	740	410	354	1120	7.2
DEC.												
03...	1445	530	--	--	--	106	--	--	--	--	908	--
JAN., 1969												
14...	1200	220	--	--	--	114	--	--	--	--	994	--
MAR.												
13...	1115	251	--	--	--	78	--	--	--	--	888	--
JUNE												
27...	1545	1480	--	--	--	32	--	--	--	--	447	--
AUG.												
21...	1150	238	--	--	--	66	--	--	--	--	839	--
03159520 - FEDERAL CREEK NEAR STEWART, OHIO (LAT 39 20 30 LONG 081 53 00)												
OCT., 1968												
10...	0830	8.3	116	0	456	88	--	816	596	501	1260	7.6
SEP., 1969												
16...	1345	1.0	80	0	510	60	.4	932	572	506	1220	7.5
SHADE RIVER BASIN												
03159540 - SHADE RIVER NEAR CHESTER, OHIO (LAT 39 03 49 LONG 081 52 55)												
OCT., 1968												
10...	1100	16	4	0	330	38	--	534	324	321	788	4.7
DEC.												
03...	1200	119	--	--	--	18	--	--	--	--	397	--
JAN., 1969												
14...	--	13	--	--	--	42	--	--	--	--	548	--
MAR.												
13...	1345	17	--	--	--	24	--	--	--	--	457	--
MAY												
07...	1520	43	--	--	--	16	--	--	--	--	402	--
JULY												
11...	1235	30	--	--	--	10	--	--	--	--	401	--
LEADING CREEK BASIN												
03160050 - LEADING CREEK NEAR MIDDLEPORT, OHIO (LAT 39 00 25 LONG 082 05 10)												
OCT., 1968												
10...	1200	13	51	0	162	16	--	294	194	152	483	6.9
SEP., 1969												
17...	1350	2.8	80	0	118	46	1.4	340	198	133	540	7.0
RACCOON CREEK BASIN												
03201800 - SANDY RUN NEAR LAKE HOPE, OHIO (LAT 39 20 01 LONG 082 19 56)												
OCT., 1968												
09...	1500	.09	0	0	660	10	--	1000	500	500	1240	3.7
NOV.												
25...	1430	.40	--	--	--	12	--	--	--	--	1120	--
JAN., 1969												
15...	--	.20	--	--	--	14	--	--	--	--	836	--
29...	1510	75	--	--	--	5.0	--	--	--	--	164	--
MAR.												
04...	1455	.74	--	--	--	9.0	--	--	--	--	692	--
MAY												
06...	1645	2.0	--	--	--	6.0	--	--	--	--	576	--
JULY												
02...	1505	.08	--	--	--	8.0	--	--	--	--	830	--
AUG.												
21...	1525	.09	--	--	--	10	--	--	--	--	1190	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
RACCOON CREEK BASIN--CONTINUED												
03201900 - RACCOON CREEK NEAR PRATTSVILLE, OHIO (LAT 39 14 20 LONG 082 17 10)												
OCT., 1968												
09...	1445	5.9	0	0	182	66	--	370	182	182	651	4.3
LITTLE SCIOTO RIVER BASIN												
03216700 - LITTLE SCIOTO RIVER AT SCIOTOVILLE, OHIO (LAT 38 46 15 LONG 082 52 45)												
OCT., 1968												
08...	1415	4.0	76	0	39	24	--	174	99	37	302	7.0
SEP., 1969												
19...	1330	4.9	62	0	44	19	4.3	166	92	41	275	6.9
SCIOTO RIVER BASIN												
03217400 - SCIOTO RIVER NEAR KENTON, OHIO (LAT 40 38 50 LONG 083 38 20)												
OCT., 1968												
17...	1300	5.4	320	0	277	14	--	724	536	274	987	8.2
03217600 - RUSH CREEK NEAR LARUE, OHIO (LAT 40 33 30 LONG 083 20 00)												
OCT., 1968												
17...	1130	.44	298	0	151	14	--	460	394	150	743	8.2
03218000 - LITTLE SCIOTO RIVER ABOVE MARION, OHIO (LAT 40 37 43 LONG 083 10 11)												
OCT., 1968												
17...	1030	.69	268	0	151	19	--	468	376	156	733	7.7
DEC.												
10...	1500	24	--	--	--	28	--	--	--	--	727	--
FEB., 1969												
06...	1245	77	--	--	--	20	--	--	--	--	585	--
MAR.												
21...	1300	16	--	--	--	24	--	--	--	--	661	--
MAY												
21...	1505	362	--	--	--	14	--	--	--	--	451	--
SEP.												
30...	1350	7.0	256	0	127	22	4.6	440	350	140	688	7.9
03219500 - SCIOTO RIVER NEAR PROSPECT, OHIO (LAT 40 25 10 LONG 083 11 50)												
OCT., 1968												
22...	1115	18	280	10	248	46	--	616	410	164	1040	8.5
DEC.												
16...	1705	100	--	--	--	28	--	--	--	--	897	--
MAY , 1969												
22...	1230	4980	--	--	--	8.0	--	--	--	--	359	--
JULY												
16...	1340	273	--	--	--	18	--	--	--	--	625	--
SEP.												
11...	1300	168	--	--	--	26	--	--	--	--	559	--
03220000 - MILL CREEK NEAR BELLEPOINT, OHIO (LAT 40 14 54 LONG 083 10 26)												
OCT., 1968												
22...	1345	3.9	320	0	442	46	--	896	620	358	1370	7.8
DEC.												
16...	1240	23	--	--	--	28	--	--	--	--	1000	--
FEB., 1969												
07...	1300	77	--	--	--	18	--	--	--	--	684	--
MAY												
27...	1155	58	--	--	--	17	--	--	--	--	725	--
JULY												
17...	1450	20	--	--	--	22	--	--	--	--	718	--
SEP.												
12...	1225	6.6	254	0	388	41	13	902	549	341	1250	7.6
03221000 - SCIOTO RIVER BELOW O'SHAUGHNESSY DAM, NEAR DUBLIN, OHIO (LAT 40 08 36 LONG 083 07 14)												
OCT., 1968												
21...	1230	38	225	6	144	23	--	446	338	143	699	8.5
DEC.												
12...	1430	296	--	--	--	26	--	--	--	--	649	--
FEB., 1969												
12...	1540	901	--	--	--	18	--	--	--	--	572	--
JULY												
18...	1115	282	--	--	--	14	--	--	--	--	508	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
SCIOTO RIVER BASIN--CONTINUED												
03223000 - OLENTANGY RIVER AT CLARIDON, OHIO (LAT 40 35 05 LONG 082 59 20)												
OCT., 1968												
18...	1230	2.6	278	12	103	36	--	460	322	74	739	8.5
DEC.												
11...	1120	38	--	--	--	32	--	--	--	--	707	--
FEB., 1969												
05...	1555	184	--	--	--	19	--	--	--	--	497	--
MAR.												
21...	1445	42	--	--	--	27	--	--	--	--	684	--
MAY												
23...	1400	320	--	--	--	12	--	--	--	--	439	--
03224500 - WHETSTONE CREEK NEAR ASHLEY, OHIO (LAT 40 27 18 LONG 082 57 28)												
OCT., 1968												
23...	1330	4.6	300	12	88	318	--	978	488	222	1600	8.5
DEC.												
11...	1520	34	--	--	--	104	--	--	--	--	902	--
FEB., 1969												
06...	1510	81	--	--	--	60	--	--	--	--	650	--
MAY												
26...	1145	90	--	--	--	64	--	--	--	--	664	--
03225500 - OLENTANGY RIVER NEAR DELAWARE, OHIO (LAT 40 21 18 LONG 083 04 02)												
OCT., 1968												
23...	1100	10	178	0	71	48	--	354	240	94	563	7.7
DEC.												
16...	1330	69	--	--	--	44	--	--	--	--	585	--
FEB., 1969												
04...	1045	3890	--	--	--	14	--	--	--	--	302	--
APR.												
02...	1405	21	--	--	--	42	--	--	--	--	617	--
MAY												
22...	1710	3880	--	--	--	18	--	--	--	--	383	--
JULY												
17...	1035	146	--	--	--	16	--	--	--	--	419	--
SEP.												
15...	1150	18	162	2	57	32	4.9	294	208	72	565	8.3
03226800 - OLENTANGY RIVER NEAR WORTHINGTON, OHIO (LAT 40 06 37 LONG 083 01 55)												
OCT., 1968												
21...	1430	14	234	0	138	72	--	550	338	146	843	7.8
DEC.												
12...	1145	90	--	--	--	50	--	--	--	--	685	--
APR., 1969												
02...	1000	86	--	--	--	42	--	--	--	--	659	--
MAY												
22...	1315	4110	--	--	--	18	--	--	--	--	397	--
JULY												
18...	1400	174	--	--	--	18	--	--	--	--	486	--
SEP.												
16...	1320	25	198	0	102	35	5.2	384	276	114	616	8.0
03227500 - SCIOTO RIVER AT COLUMBUS, OHIO (LAT 39 54 34 LONG 083 00 33)												
NOV., 1968												
25...	1540	483	--	--	--	48	--	--	--	--	708	--
JAN., 1969												
28...	1500	1320	--	--	--	32	--	--	--	--	591	--
APR.												
24...	1230	6760	--	--	--	19	--	--	--	--	441	--
03228500 - BIG WALNUT CREEK AT CENTRAL COLLEGE, OHIO (LAT 40 06 13 LONG 082 53 03)												
DEC., 1968												
30...	1345	195	--	--	--	16	--	--	--	--	355	--
FEB., 1969												
24...	1335	80	--	--	--	14	--	--	--	--	300	--
APR.												
25...	1040	289	--	--	--	14	--	--	--	--	328	--
JULY												
22...	1400	192	--	--	--	12	--	--	--	--	318	--
SEP.												
19...	1400	84	124	0	46	13	2.6	200	154	52	340	7.7

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
SCIOTO RIVER BASIN--CONTINUED												
03228700 - BLACKLICK CREEK NEAR GROVEPORT, OHIO (LAT 39 53 25 LONG 082 51 50)												
OCT., 1968												
11...	1430	6.2	257	10	101	80	--	506	332	105	858	8.6
SEP., 1969												
21...	1450	5.6	318	0	118	91	13	622	414	153	1020	7.4
03229000 - ALUM CREEK AT COLUMBUS, OHIO (LAT 39 56 42 LONG 082 56 28)												
OCT., 1968												
16...	1430	11	238	0	155	59	--	510	336	141	854	7.4
DEC.												
11...	1345	55	--	--	--	52	--	--	--	--	781	--
29...	1130	3060	--	--	--	16	--	--	--	--	254	--
FEB., 1969												
11...	1540	242	--	--	--	34	--	--	--	--	524	--
MAY												
27...	1540	103	--	--	--	33	--	--	--	--	651	--
JULY												
22...	1600	144	--	--	--	24	--	--	--	--	567	--
SEP.												
10...	--	26	158	0	77	26	5.9	292	216	86	500	7.2
03229500 - BIG WALNUT CREEK AT REES, OHIO (LAT 39 51 24 LONG 082 57 26)												
OCT., 1968												
10...	1130	26	250	0	105	39	--	438	306	101	717	7.5
DEC.												
10...	1515	110	--	--	--	42	--	--	--	--	651	--
JAN., 1969												
30...	1755	8770	--	--	--	16	--	--	--	--	298	--
MAR.												
26...	1545	975	--	--	--	48	--	--	--	--	610	--
MAY												
28...	1650	190	--	--	--	26	--	--	--	--	577	--
JULY												
23...	1040	1470	--	--	--	10	--	--	--	--	288	--
SEP.												
08...	1530	110	288	0	115	58	7.3	512	361	124	852	7.2
03229800 - WALNUT CREEK NEAR ASHVILLE, OHIO (LAT 39 40 55 LONG 082 58 30)												
SEP., 1969												
21...	1640	32	359	0	89	18	3.9	458	382	88	749	7.5
03230200 - BIG DARBY CREEK AT PLAIN CITY, OHIO (LAT 40 06 25 LONG 083 15 20)												
OCT., 1968												
15...	1100	9.3	310	0	126	17	--	456	379	125	749	7.7
SEP., 1969												
23...	1420	7.3	304	0	111	17	2.3	418	373	174	700	7.7
03230300 - LITTLE DARBY CREEK AT CHUCKERY, OHIO (LAT 40 06 40 LONG 083 23 30)												
OCT., 1968												
15...	1130	6.4	252	0	73	18	--	354	280	73	575	8.1
SEP., 1969												
23...	1535	10	376	0	73	16	4.2	434	394	86	724	8.1
03230400 - BIG DARBY CREEK AT DARBYDALE, OHIO (LAT 39 50 55 LONG 083 11 20)												
SEP., 1969												
26...	1100	39	342	0	93	23	3.1	482	380	100	739	8.0
03230500 - BIG DARBY CREEK AT DARBYVILLE, OHIO (LAT 39 42 03 LONG 083 06 35)												
OCT., 1968												
14...	1530	34	318	0	88	36	--	456	344	83	752	8.0
NOV.												
25...	1030	79	--	--	--	26	--	--	--	--	720	--
MAR., 1969												
24...	1300	172	--	--	--	--	--	--	--	--	697	--
MAY												
14...	1740	616	--	--	--	20	--	--	--	--	628	--
JULY												
28...	1200	382	--	--	--	20	--	--	--	--	671	--
SEP.												
23...	1100	46	338	0	87	31	3.0	436	383	106	757	7.8

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
SCIOTO RIVER BASIN--CONTINUED												
03230600 - HOMINY CREEK AT CIRCLEVILLE, OHIO (LAT 39 35 25 LONG 082 55 25)												
OCT., 1968												
11...	1130	.41	320	0	89	16	--	450	371	109	703	7.8
SEP., 1969												
15...	1115	.36	220	0	94	16	8.3	368	324	158	574	8.0
03230800 - DEER CREEK AT MOUNT STERLING, OHIO (LAT 39 42 54 LONG 083 15 26)												
OCT., 1968												
16...	1045	13	312	0	73	21	--	396	320	64	669	8.0
NOV.												
25...	1200	56	--	--	--	18	--	--	--	--	616	--
JAN., 1969												
30...	1300	4080	--	--	--	10	--	--	--	--	263	--
MAR.												
25...	1520	258	--	--	--	--	--	--	--	--	649	--
MAY												
14...	1000	302	--	--	--	16	--	--	--	--	590	--
JULY												
24...	1625	204	--	--	--	12	--	--	--	--	561	--
SEP.												
24...	1400	23	312	0	72	18	4.3	374	330	74	656	7.8
03230900 - DEER CREEK NEAR PANCOASTBURG, OHIO (LAT 39 37 14 LONG 083 12 47)												
OCT., 1968												
18...	1330	13	254	0	46	14	--	304	258	50	520	7.5
NOV.												
26...	1135	476	--	--	--	16	--	--	--	--	529	--
MAR., 1969												
24...	1050	71	--	--	--	--	--	--	--	--	565	--
MAY												
14...	1230	330	--	--	--	15	--	--	--	--	540	--
JULY												
25...	1140	293	--	--	--	12	--	--	--	--	529	--
SEP.												
25...	1445	13	225	0	46	12	4.6	246	240	56	477	7.7
03231300 - KINNIKINNICK CREEK NEAR KINNIKINNICK, OHIO (LAT 39 26 25 LONG 082 58 35)												
OCT., 1968												
09...	1515	10	372	0	58	8.0	--	368	362	56	672	7.8
SEP., 1969												
15...	1500	8.6	320	0	56	7.3	1.4	320	338	76	602	7.8
03232000 - PAINT CREEK NEAR GREENFIELD, OHIO (LAT 39 22 45 LONG 083 22 32)												
OCT., 1968												
15...	1055	4.8	314	0	74	78	--	490	302	44	859	7.3
NOV.												
26...	1540	35	--	--	--	32	--	--	--	--	730	--
JAN., 1969												
31...	1100	2980	--	--	--	12	--	--	--	--	307	--
MAR.												
21...	1125	58	--	--	--	26	--	--	--	--	647	--
MAY												
13...	1045	263	--	--	--	20	--	--	--	--	605	--
JULY												
15...	1340	60	--	--	--	18	--	--	--	--	671	--
SEP.												
22...	1505	5.4	308	0	67	55	6.0	438	318	65	741	8.0
03232400 - RATTLESNAKE CREEK NEAR NEW PETERSBURG, OHIO (LAT 39 16 30 LONG 083 25 05)												
OCT., 1968												
17...	1130	4.4	322	0	46	12	--	340	312	48	594	8.0
SEP., 1969												
10...	1100	4.3	302	0	48	12	2.7	360	309	61	580	7.8

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CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
SCIOTO RIVER BASIN--CONTINUED												
03232470 - PAINT CREEK BELOW PAINT CREEK DAM, NEAR BAINBRIDGE, OHIO (LAT 39 15 08 LONG 083 20 58)												
OCT., 1968												
15...	1530	14	324	0	53	39	--	416	315	49	710	7.9
NOV.												
29...	1500	277	--	--	--	22	--	--	--	--	604	--
JAN., 1969												
31...	1400	6020	--	--	--	11	--	--	--	--	312	--
MAR.												
20...	1500	133	--	--	--	--	--	--	--	--	610	--
MAY												
13...	1530	488	--	--	--	18	--	--	--	--	598	--
JULY												
15...	1835	149	--	--	--	14	--	--	--	--	559	--
03232500 - ROCKY FORK NEAR BARRETTS MILLS, OHIO (LAT 39 13 06 LONG 083 23 08)												
OCT., 1968												
16...	1530	5.7	258	0	22	5.0	--	274	232	20	449	7.7
DEC.												
02...	1335	188	--	--	--	8.0	--	--	--	--	337	--
JAN., 1969												
27...	1530	170	--	--	--	10	--	--	--	--	380	--
MAR.												
20...	1250	6.9	--	--	--	8.0	--	--	--	--	436	--
MAY												
15...	1430	125	--	--	--	10	--	--	--	--	391	--
JULY												
17...	1835	7.0	--	--	--	8.0	--	--	--	--	396	--
SEP.												
17...	1700	4.1	184	4	25	7.5	2.3	188	192	34	363	8.3
03235000 - SALT CREEK AT TARLTON, OHIO (LAT 39 33 20 LONG 082 46 50)												
OCT., 1968												
11...	1230	.42	240	0	81	10	--	354	275	78	548	7.8
SEP., 1969												
15...	1025	.63	266	0	65	14	.7	318	300	82	567	7.6
03235500 - TAR HOLLOW CREEK AT TAR HOLLOW STATE PARK, OHIO (LAT 39 23 22 LONG 082 45 03)												
NOV., 1968												
27...	1030	.03	--	--	--	4.0	--	--	--	--	149	--
JAN., 1969												
24...	1120	1.4	--	--	--	2.0	--	--	--	--	95	--
MAR.												
19...	1030	.12	--	--	--	--	--	--	--	--	104	--
MAY												
12...	1050	3.6	--	--	--	1.0	--	--	--	--	90	--
JULY												
14...	1335	.24	--	--	--	2.0	--	--	--	--	132	--
AUG.												
20...	1145	.06	--	--	--	3.0	--	--	--	--	172	--
03235995 - SALT CREEK ABOVE DAMSITE, NEAR LONDONDERRY, OHIO (LAT 39 17 25 LONG 082 44 45)												
OCT., 1968												
14...	1215	17	200	0	33	15	--	216	194	30	416	7.8
SEP., 1969												
15...	1345	22	188	0	35	12	1.0	240	193	39	394	8.1
03237050 - SUNFISH CREEK NEAR PIKETON, OHIO (LAT 39 00 45 LONG 083 03 45)												
OCT., 1968												
09...	1325	3.2	108	0	28	468	--	966	372	283	1770	7.1
SEP., 1969												
19...	1605	2.8	104	0	34	500	4.3	1010	410	325	1830	7.0
03237200 - SCIOTO BRUSH CREEK AT RUSHTOWN, OHIO (LAT 38 50 15 LONG 083 01 20)												
OCT., 1968												
08...	1530	8.5	112	0	38	7.0	--	188	124	32	279	7.3
SEP., 1969												
19...	1510	7.3	84	0	40	6.2	1.1	128	110	41	250	7.4

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
OHIO BRUSH CREEK BASIN												
03237500 - OHIO BRUSH CREEK NEAR WEST UNION, OHIO (LAT 38 48 13 LONG 083 25 16)												
OCT., 1968												
08...	1140	8.9	254	0	35	8.0	--	258	238	30	439	7.8
DEC.												
03...	1200	96	--	--	--	10	--	--	--	--	435	--
JAN., 1969												
21...	1150	291	--	--	--	10	--	--	--	--	348	--
MAR.												
18...	1120	45	--	--	--	10	--	--	--	--	481	--
MAY												
16...	1130	92	--	--	--	6.0	--	--	--	--	421	--
JULY												
18...	1340	5.8	--	--	--	6.0	--	--	--	--	419	--
SEP.												
18...	1520	5.4	149	0	23	5.2	4.2	154	148	26	313	7.4
EAGLE CREEK BASIN												
03238200 - EAGLE CREEK NEAR RIPLEY, OHIO (LAT 38 43 35 LONG 083 47 15)												
OCT., 1968												
07...	1545	1.9	196	0	31	7.0	--	234	192	32	380	8.0
SEP., 1969												
10...	1430	21	142	0	24	4.7	4.3	178	158	42	301	7.6
WHITEOAK CREEK BASIN												
03238500 - WHITEOAK CREEK NEAR GEORGETOWN, OHIO (LAT 38 50 42 LONG 083 55 16)												
OCT., 1968												
07...	1345	3.1	168	0	52	25	--	266	180	42	474	7.7
DEC.												
02...	1520	68	--	--	--	16	--	--	--	--	449	--
JAN., 1969												
20...	1615	186	--	--	--	12	--	--	--	--	287	--
MAR.												
17...	1330	25	--	--	--	--	--	--	--	--	473	--
MAY												
16...	0845	40	--	--	--	10	--	--	--	--	379	--
JULY												
24...	1135	8.1	--	--	--	10	--	--	--	--	320	--
SEP.												
10...	1525	4.0	--	--	--	20	--	--	--	--	361	--
24...	1050	1.4	162	0	49	26	6.3	250	168	35	460	7.6
LITTLE MIAMI RIVER BASIN												
03239000 - LITTLE MIAMI RIVER NEAR SELMA, OHIO (LAT 39 48 40 LONG 083 44 20)												
OCT., 1968												
30...	1055	3.9	364	0	92	18	--	482	406	108	756	8.1
SEP., 1969												
23...	1305	6.8	348	0	84	18	8.8	438	398	113	726	8.0
03239500 - NORTH FORK LITTLE MIAMI RIVER NEAR PITCHIN, OHIO (LAT 39 49 40 LONG 083 46 25)												
OCT., 1968												
30...	1240	3.0	332	0	80	14	--	446	378	106	688	7.9
SEP., 1969												
23...	1410	9.9	234	0	76	16	5.3	332	320	128	551	7.9
03240000 - LITTLE MIAMI RIVER NEAR OLDTOWN, OHIO (LAT 39 44 54 LONG 083 55 53)												
DEC., 1968												
31...	1000	266	--	--	--	18	--	--	--	--	627	--
FEB., 1969												
12...	1145	239	--	--	--	18	--	--	--	--	626	--
APR.												
14...	1455	97	--	--	--	20	--	--	--	--	652	--
MAY												
28...	1435	91	--	--	--	18	--	--	--	--	673	--
JULY												
30...	1317	115	--	--	--	16	--	--	--	--	679	--
03241500 - MASSIES CREEK AT WILBERFORCE, OHIO (LAT 39 43 21 LONG 083 52 56)												
JAN., 1969												
08...	1250	38	--	--	--	22	--	--	--	--	724	--
FEB.												
12...	1350	150	--	--	--	18	--	--	--	--	590	--
APR.												
14...	1225	50	--	--	--	26	--	--	--	--	639	--
JUNE												
03...	1420	75	--	--	--	20	--	--	--	--	656	--
JULY												
28...	1425	76	--	--	--	16	--	--	--	--	625	--
SEP.												
10...	1435	5.9	310	18	65	31	9.5	422	368	84	712	8.6

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONO-UCTANCE (MICRO-MHOS)	PH (UNITS)
LITTLE MIAMI RIVER BASIN--CONTINUED												
03242150 - CAESAR CREEK NEAR XENIA, OHIO (LAT 39 37 25 LONG 083 54 09)												
JAN., 1969												
08...	1450	40	--	--	--	18	--	--	--	--	577	--
FEB.												
11...	1215	215	--	--	--	16	--	--	--	--	499	--
APR.												
15...	1530	49	--	--	--	18	--	--	--	--	577	--
JUNE												
03...	1220	60	--	--	--	17	--	--	--	--	554	--
AUG.												
04...	1250	11	--	--	--	18	--	--	--	--	616	--
03242200 - ANDERSON FORK NEAR NEW BURLINGTON, OHIO (LAT 39 33 59 LONG 083 54 10)												
JAN., 1969												
06...	1505	44	--	--	--	24	--	--	--	--	686	--
FEB.												
11...	1110	224	--	--	--	16	--	--	--	--	498	--
APR.												
07...	1235	120	--	--	--	22	--	--	--	--	596	--
JUNE												
02...	1250	46	--	--	--	18	--	--	--	--	580	--
AUG.												
01...	1425	6.0	--	--	--	20	--	--	--	--	664	--
SEP.												
11...	1410	1.0	182	0	55	22	7.4	276	221	72	464	8.1
03242300 - CAESAR CREEK AT HARVEYSBURG, OHIO (LAT 39 30 27 LONG 084 00 42)												
JAN., 1969												
14...	1305	55	--	--	--	24	--	--	--	--	724	--
MAR.												
06...	1700	80	--	--	--	20	--	--	--	--	592	--
APR.												
29...	1155	102	--	--	--	18	--	--	--	--	595	--
JUNE												
26...	1050	308	--	--	--	16	--	--	--	--	575	--
AUG.												
05...	1430	22	--	--	--	18	--	--	--	--	545	--
SEP.												
19...	1005	10	280	0	50	17	4.1	310	290	60	570	7.9
03242350 - CAESAR CREEK NEAR WELLMAN, OHIO (LAT 39 28 57 LONG 084 03 52)												
JAN., 1969												
14...	--	48	--	--	--	24	--	--	--	--	722	--
MAR.												
05...	1630	96	--	--	--	18	--	--	--	--	572	--
APR.												
29...	1415	106	--	--	--	18	--	--	--	--	583	--
JUNE												
26...	1155	312	--	--	--	14	--	--	--	--	550	--
AUG.												
06...	1145	18	--	--	--	18	--	--	--	--	571	--
SEP.												
19...	1140	12	270	0	49	17	2.9	326	278	56	554	7.7
03244000 - TODD FORK NEAR ROACHESTER, OHIO (LAT 39 20 07 LONG 084 05 12)												
MAR., 1969												
06...	1220	50	--	--	--	22	--	--	--	--	590	--
APR.												
29...	1830	100	--	--	--	18	--	--	--	--	535	--
JUNE												
26...	1520	68	--	--	--	16	--	--	--	--	461	--
JULY												
22...	1830	117	--	--	--	18	--	--	--	--	386	--
03245500 - LITTLE MIAMI RIVER AT MILFORD, OHIO (LAT 39 10 17 LONG 084 17 53)												
JAN., 1969												
10...	1640	534	--	--	--	32	--	--	--	--	733	--
APR.												
23...	1900	1150	--	--	--	23	--	--	--	--	605	--
JUNE												
19...	1800	528	--	--	--	22	--	--	--	--	578	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
LITTLE MIAMI RIVER BASIN--CONTINUED												
03246200 - EAST FORK LITTLE MIAMI RIVER NEAR MARATHON, OHIO (LAT 39 06 52 LONG 084 01 29)												
JAN., 1969												
06...	--	46	--	--	--	18	--	--	--	--	546	--
MAR.												
03...	1410	41	--	--	--	18	--	--	--	--	533	--
APR.												
21...	1345	216	--	--	--	13	--	--	--	--	376	--
JUNE												
17...	1345	16	--	--	--	16	--	--	--	--	519	--
JULY												
28...	1535	12	--	--	--	14	--	--	--	--	374	--
SEP.												
25...	1510	.90	170	0	25	13	1.8	204	164	24	358	7.5
03246500 - EAST FORK LITTLE MIAMI RIVER AT WILLIAMSBURG, OHIO (LAT 39 03 09 LONG 084 03 02)												
JAN., 1969												
06...	--	50	--	--	--	20	--	--	--	--	542	--
FEB.												
26...	1200	63	--	--	--	17	--	--	--	--	550	--
APR.												
22...	1130	190	--	--	--	12	--	--	--	--	389	--
JUNE												
18...	1205	16	--	--	--	14	--	--	--	--	424	--
JULY												
25...	1335	2.1	--	--	--	10	--	--	--	--	274	--
SEP.												
24...	1745	.79	156	0	50	42	26	320	180	52	550	7.3
03247050 - EAST FORK LITTLE MIAMI RIVER NEAR BATAVIA, OHIO (LAT 39 03 36 LONG 084 10 32)												
JAN., 1969												
03...	--	120	--	--	--	14	--	--	--	--	412	--
MAR.												
01...	1020	74	--	--	--	17	--	--	--	--	538	--
APR.												
21...	1715	426	--	--	--	10	--	--	--	--	332	--
JUNE												
18...	1445	27	--	--	--	12	--	--	--	--	426	--
JULY												
24...	1655	433	--	--	--	10	--	--	--	--	324	--
03247400 - SHAYLER RUN NEAR PERINTOWN, OHIO (LAT 39 06 46 LONG 084 13 24)												
JAN., 1969												
08...	--	1.8	--	--	--	52	--	--	--	--	834	--
FEB.												
05...	1300	9.3	--	--	--	25	--	--	--	--	519	--
25...	1800	3.5	--	--	--	36	--	--	--	--	668	--
APR.												
23...	1245	8.0	--	--	--	22	--	--	--	--	541	--
JUNE												
19...	1920	.60	--	--	--	60	--	--	--	--	821	--
JULY												
29...	1810	.47	--	--	--	62	--	--	--	--	824	--
SEP.												
30...	1750	.38	242	10	124	74	35	596	314	98	924	8.4
03248000 - LITTLE MIAMI RIVER AT PLAINVILLE, OHIO (LAT 39 08 13 LONG 084 21 11)												
APR., 1969												
24...	1055	1400	--	--	--	21	--	--	--	--	573	--
JUNE												
20...	1155	530	--	--	--	22	--	--	--	--	587	--
SEP.												
23...	1220	175	322	0	58	43	10	430	342	78	724	8.0
MILL CREEK BASIN												
03255500 - MILL CREEK AT READING, OHIO (LAT 39 13 15 LONG 084 26 50)												
JAN., 1969												
11...	--	15	--	--	--	90	--	--	--	--	925	--
FEB.												
24...	1800	38	--	--	--	53	--	--	--	--	787	--
APR.												
24...	1807	55	--	--	--	74	--	--	--	--	802	--
JUNE												
24...	1440	35	--	--	--	56	--	--	--	--	642	--
AUG.												
08...	1420	38	--	--	--	52	--	--	--	--	628	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
MILL CREEK BASIN--CONTINUED												
03257500 - WEST FORK MILL CREEK AT WOODLAWN, OHIO (LAT 39 15 14 LONG 084 28 13)												
JAN., 1969												
15...	1000	2.6	--	--	--	54	--	--	--	--	631	--
MAR.												
04...	1715	2.1	--	--	--	30	--	--	--	--	849	--
APR.												
25...	1545	12	--	--	--	52	--	--	--	--	772	--
JUNE												
25...	1100	38	--	--	--	24	--	--	--	--	414	--
AUG.												
08...	1100	2.1	--	--	--	68	--	--	--	--	886	--
03259000 - MILL CREEK AT CARTHAGE, OHIO (LAT 39 12 07 LONG 084 28 16)												
JAN., 1969												
11...	1920	21	--	--	--	100	--	--	--	--	936	--
MAR.												
04...	1340	36	--	--	--	52	--	--	--	--	783	--
APR.												
25...	1120	69	--	--	--	53	--	--	--	--	767	--
JUNE												
24...	1905	83	--	--	--	40	--	--	--	--	547	--
AUG.												
07...	1420	15	--	--	--	56	--	--	--	--	733	--
SEP.												
22...	1305	15	234	0	126	63	22	490	281	88	824	7.1
GREAT MIAMI RIVER BASIN												
03260700 - BOKENGEHALAS CREEK NEAR DE GRAFF, OHIO (LAT 40 20 50 LONG 083 53 28)												
SEP., 1969												
30...	1200	12	390	0	99	55	8.9	560	428	108	928	8.0
03261950 - LORAMIE CREEK NEAR NEWPORT, OHIO (LAT 40 18 25 LONG 084 23 02)												
OCT., 1968												
02...	1030	1.2	304	0	203	54	--	664	414	165	994	7.5
03262000 - LORAMIE CREEK AT LOCKINGTON, OHIO (LAT 40 12 35 LONG 084 14 32)												
OCT., 1968												
10...	1035	10	364	0	98	16	--	476	390	92	762	7.9
SEP., 1969												
29...	1215	14	300	0	97	16	9.3	430	348	102	699	7.6
03262500 - GREAT MIAMI RIVER AT PIQUA, OHIO (LAT 40 08 58 LONG 084 13 48)												
OCT., 1968												
10...	1400	89	330	8	89	26	--	450	370	86	741	8.4
03262700 - GREAT MIAMI RIVER AT TROY, OHIO (LAT 40 02 25 LONG 084 11 52)												
NOV., 1968												
04...	--	483	354	0	97	32	--	496	374	84	803	8.0
03262800 - LOST CREEK NEAR TROY, OHIO (LAT 40 01 05 LONG 084 09 25)												
OCT., 1968												
18...	0945	4.7	330	0	62	20	--	396	346	75	661	8.2
03263200 - STILLWATER RIVER AT WEBSTER, OHIO (LAT 40 11 20 LONG 084 28 40)												
OCT., 1968												
30...	1400	8.7	418	0	132	22	--	588	462	119	906	7.9
03266500 - MAD RIVER AT ZANESFIELD, OHIO (LAT 40 21 01 LONG 083 40 28)												
OCT., 1968												
17...	1430	1.7	352	0	43	10	--	374	350	61	608	8.1
DEC.												
09...	1630	6.7	--	--	--	12	--	--	--	--	608	--
JAN., 1969												
22...	1605	11	--	--	--	12	--	--	--	--	565	--
MAY												
19...	1215	75	--	--	--	5.0	--	--	--	--	408	--
JULY												
16...	1045	4.1	--	--	--	8.0	--	--	--	--	641	--
SEP.												
18...	1130	2.9	--	--	--	14	--	--	--	--	640	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
GREAT MIAMI RIVER BASIN--CONTINUED												
03267000 - MAD RIVER NEAR URBANA, OHIO (LAT 40 06 27 LONG 083 47 57)												
NOV., 1968												
01...	1015	68	352	0	91	16	--	456	396	107	733	7.9
03267500 - MAD RIVER AT TREMONT CITY, OHIO (LAT 40 00 25 LONG 083 49 24)												
DEC., 1968												
24...	1100	206	--	--	--	16	--	--	--	--	709	--
FEB., 1969												
13...	1010	344	--	--	--	12	--	--	--	--	734	--
APR.												
17...	1200	287	--	--	--	12	--	--	--	--	681	--
MAY												
23...	1355	398	--	--	--	10	--	--	--	--	704	--
JULY												
16...	1145	210	--	--	--	12	--	--	--	--	720	--
SEP.												
09...	1110	152	354	0	83	16	10	408	396	106	738	7.9
03267600 - CHAPMAN CREEK AT TREMONT CITY, OHIO (LAT 40 00 38 LONG 083 50 08)												
DEC., 1968												
19...	1310	36	--	--	--	12	--	--	--	--	481	--
FEB., 1969												
13...	1405	28	--	--	--	14	--	--	--	--	601	--
APR.												
18...	1345	117	--	--	--	12	--	--	--	--	494	--
MAY												
20...	1545	97	--	--	--	12	--	--	--	--	545	--
JULY												
17...	1220	5.3	--	--	--	10	--	--	--	--	599	--
SEP.												
09...	1410	3.9	200	0	46	12	4.9	242	216	52	435	8.0
03267700 - MOORE RUN NEAR EAGLE CITY, OHIO (LAT 39 59 24 LONG 083 49 03)												
DEC., 1968												
19...	1040	30	--	--	--	28	--	--	--	--	696	--
FEB., 1969												
14...	1050	24	--	--	--	16	--	--	--	--	874	--
APR.												
18...	1205	27	--	--	--	22	--	--	--	--	640	--
MAY												
22...	1415	25	--	--	--	21	--	--	--	--	871	--
JULY												
15...	1440	19	--	--	--	18	--	--	--	--	826	--
SEP.												
08...	1435	15	--	--	--	32	--	--	--	--	526	--
03267800 - MAD RIVER AT EAGLE CITY, OHIO (LAT 39 58 36 LONG 083 49 21)												
SEP., 1969												
15...	1215	159	352	0	85	14	17	452	404	115	718	8.1
03267900 - MAD RIVER (ST. PARIS PIKE) AT EAGLE CITY, OHIO (LAT 39 57 51 LONG 083 49 54)												
DEC., 1968												
26...	1020	235	--	--	--	14	--	--	--	--	720	--
FEB., 1969												
17...	1340	329	--	--	--	14	--	--	--	--	734	--
APR.												
17...	1415	331	--	--	--	12	--	--	--	--	675	--
MAY												
21...	1110	645	--	--	--	10	--	--	--	--	649	--
27...	1230	357	--	--	--	12	--	--	--	--	723	--
JULY												
18...	1440	218	--	--	--	12	--	--	--	--	646	--
SEP.												
15...	1400	158	356	0	84	13	10	406	396	104	729	8.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)	PH (UNITS)
GREAT MIAMI RIVER BASIN--CONTINUED												
03267950 - BUCK CREEK NEAR NEW MOOREFIELD, OHIO (LAT 40 00 38 LONG 083 41 56)												
DEC., 1968 20...	1340	17	--	--	--	12	--	--	--	--	704	--
FEB., 1969 18...	1220	29	--	--	--	12	--	--	--	--	690	--
APR. 11...	1450	24	--	--	--	13	--	--	--	--	703	--
MAY 22...	1250	32	--	--	--	14	--	--	--	--	728	--
JULY 14...	1450	23	--	--	--	12	--	--	--	--	670	--
SEP. 08...	1240	18	334	0	65	16	16	424	370	96	684	7.8
03267960 - EAST FORK BUCK CREEK NEAR NEW MOOREFIELD, OHIO (LAT 40 00 22 LONG 083 41 37)												
DEC., 1968 20...	1120	32	--	--	--	12	--	--	--	--	708	--
JAN., 1969 15...	0855	20	--	--	--	16	--	--	--	--	710	--
APR. 11...	1220	29	--	--	--	12	--	--	--	--	714	--
MAY 22...	1110	50	--	--	--	10	--	--	--	--	755	--
JULY 14...	1220	30	--	--	--	12	--	--	--	--	700	--
SEP. 08...	1120	24	270	0	104	11	6.4	366	348	127	637	7.8
03269500 - MAD RIVER NEAR SPRINGFIELD, OHIO (LAT 39 55 23 LONG 083 52 13)												
NOV., 1968 01...	1320	213	340	0	92	24	--	466	374	95	753	7.8
03270500 - GREAT MIAMI RIVER AT DAYTON, OHIO (LAT 39 45 55 LONG 084 11 51)												
OCT., 1968 31...	1100	423	338	14	89	32	--	476	400	99	789	8.5
03270800 - WOLF CREEK AT TROTWOOD, OHIO (LAT 39 47 39 LONG 084 18 36)												
OCT., 1968 23...	1200	1.1	384	0	72	85	--	--	--	--	--	--
SEP., 1969 24...	1430	.91	304	8	60	58	.9	428	330	67	771	8.4
03271000 - WOLF CREEK AT DAYTON, OHIO (LAT 39 46 00 LONG 084 14 10)												
OCT., 1968 07...	1540	12	256	0	62	35	--	355	256	46	613	7.8
03271500 - GREAT MIAMI RIVER AT MIAMISBURG, OHIO (LAT 39 38 40 LONG 084 17 23)												
OCT., 1968 02...	1210	568	308	0	103	51	--	501	350	97	837	7.4
03271620 - GREAT MIAMI RIVER AT FRANKLIN, OHIO (LAT 39 33 48 LONG 084 18 18)												
OCT., 1968 16...	1120	585	312	0	102	52	--	497	356	100	839	7.4
03271800 - TWIN CREEK NEAR INGOMAR, OHIO (LAT 39 42 28 LONG 084 31 30)												
OCT., 1968 15...	1020	17	312	6	54	18	--	390	328	62	638	8.3
SEP., 1969 29...	1710	17	316	0	52	18	8.1	372	326	66	633	7.9
03272200 - ELK CREEK AT MILTONVILLE, OHIO (LAT 39 30 05 LONG 084 27 35)												
OCT., 1968 11...	1000	3.2	270	0	58	17	--	320	290	68	570	8.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
GREAT MIAMI RIVER BASIN--CONTINUED												
03272800 - SEVENMILE CREEK AT COLLINSVILLE, OHIO (LAT 39 31 23 LONG 084 36 39)												
OCT., 1968												
15...	1315	11	306	0	53	22	--	372	320	68	635	8.0
APR., 1969												
28...	1440	106	--	--	--	16	--	--	--	--	573	--
SEP.												
29...	1355	7.6	298	0	52	21	6.8	358	315	70	615	7.9
03274200 - INDIAN CREEK NEAR MILLVILLE, OHIO (LAT 39 21 45 LONG 084 38 25)												
OCT., 1968												
11...	1445	11	174	2	54	16	--	254	214	68	440	8.3

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)
STREAMS TRIBUTARY TO LAKE ERIE												
04177100 - EAST BRANCH ST. JOSEPH RIVER NEAR PIONEER, OHIO (LAT 41 39 55 LONG 084 32 30)												
OCT., 1968												
29...	0950	32	342	0	54	12	--	404	338	58	631	8.1
04184500 - BEAN CREEK AT POWERS, OHIO (LAT 41 40 39 LONG 084 13 56)												
OCT., 1968												
29...	1610	27	320	0	72	20	--	410	334	72	661	8.2
DEC.												
18...	--	100	--	--	--	20	--	--	--	--	710	--
FEB., 1969												
04...	--	500	--	--	--	10	--	--	--	--	440	--
APR.												
24...	1330	348	--	--	--	14	--	--	--	--	542	--
JUNE												
24...	1550	93	--	--	--	16	--	--	--	--	628	--
AUG.												
26...	1110	20	--	--	--	20	--	--	--	--	682	--
04185000 - TIFFIN RIVER AT STRYKER, OHIO (LAT 41 30 17 LONG 084 25 49)												
APR., 1969												
24...	1035	958	--	--	--	18	--	--	--	--	562	--
AUG.												
26...	1350	16	--	--	--	24	--	--	--	--	694	--
04185900 - AUGLAIZE RIVER NEAR BUCKLAND, OHIO (LAT 40 39 10 LONG 084 15 35)												
OCT., 1968												
22...	1035	9.0	364	0	159	80	--	684	438	140	1060	7.9
04188300 - BLANCHARD RIVER AT MOUNT BLANCHARD, OHIO (LAT 40 54 10 LONG 083 33 30)												
OCT., 1968												
28...	0900	1.6	328	0	328	40	--	814	550	281	1150	7.4
04192000 - MIAMI & ERIE CANAL NEAR DEFIANCE, OHIO (LAT 41 17 30 LONG 084 16 50)												
OCT., 1968												
29...	1345	.32	278	0	116	46	--	504	316	88	791	7.5
DEC.												
18...	1230	2.2	--	--	--	34	--	--	--	--	736	--
FEB., 1969												
04...	1645	3.2	--	--	--	18	--	--	--	--	422	--
APR.												
23...	1650	6.2	--	--	--	15	--	--	--	--	451	--
JUNE												
20...	0840	4.1	--	--	--	19	--	--	--	--	521	--
AUG.												
27...	0935	6.6	--	--	--	36	--	--	--	--	697	--
04194200 - TOUSSAINT CREEK NEAR LIMESTONE, OHIO (LAT 41 32 55 LONG 083 14 30)												
OCT., 1968												
28...	1400	1.2	288	0	264	75	--	754	500	264	1150	7.6
04194300 - MIDDLE BRANCH PORTAGE RIVER AT MERMILL, OHIO (LAT 41 17 55 LONG 083 39 00)												
OCT., 1968												
29...	1200	.32	322	0	193	120	--	788	499	235	1210	7.6
04194400 - SOUTH BRANCH PORTAGE RIVER NEAR SIX POINTS, OHIO (LAT 41 18 45 LONG 083 30 35)												
OCT., 1968												
29...	1100	4.1	170	0	181	112	--	668	332	192	1090	7.1
04195500 - PORTAGE RIVER AT WOODVILLE, OHIO (LAT 41 26 58 LONG 083 21 41)												
OCT., 1968												
28...	1300	19	218	0	202	106	--	672	330	151	1080	7.3

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE, (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
STREAMS TRIBUTARY TO LAKE ERIE--CONTINUED												
04196000 - SANDUSKY RIVER NEAR BUCYRUS, OHIO (LAT 40 48 13 LONG 083 00 21)												
DEC., 1968 09...	1120	11	--	--	--	50	--	--	--	--	764	--
FEB., 1969 10...	1230	73	--	--	--	58	--	--	--	--	751	--
APR. 16...	1110	49	--	--	--	33	--	--	--	--	660	--
JUNE 09...	1135	29	--	--	--	35	--	--	--	--	678	--
AUG. 11...	1145	18	--	--	--	42	--	--	--	--	738	--
04196200 - BROKEN SWORD CREEK AT NEVADA, OHIO (LAT 40 49 35 LONG 083 09 10)												
OCT., 1968 15...	1245	.56	276	0	154	20	--	468	386	160	772	7.2
04197000 - SANDUSKY RIVER NEAR MEXICO, OHIO (LAT 41 02 39 LONG 083 11 42)												
OCT., 1968 16...	1510	22	288	0	277	28	--	660	507	271	1000	7.7
04197100 - HONEY CREEK AT MELMORE, OHIO (LAT 41 01 20 LONG 083 06 35)												
OCT., 1968 16...	1225	1.4	274	0	77	18	--	432	310	85	626	7.7
04197300 - WOLF CREEK AT BETTSVILLE, OHIO (LAT 41 15 00 LONG 083 14 10)												
OCT., 1968 17...	1005	1.8	256	0	95	49	--	412	306	96	728	7.3
04197400 - EAST BRANCH WOLF CREEK AT FORT SENECA, OHIO (LAT 41 12 40 LONG 083 10 50)												
OCT., 1968 17...	0900	.68	268	0	135	69	--	520	348	128	884	7.4
04198000 - SANDUSKY RIVER NEAR FREMONT, OHIO (LAT 41 18 28 LONG 083 09 32)												
OCT., 1968 17...	1530	37	264	0	218	52	--	602	457	240	961	7.6
04198010 - GREEN CREEK NEAR FREMONT, OHIO (LAT 41 23 30 LONG 083 01 45)												
OCT., 1968 29...	0900	9.7	120	0	1400	18	--	2270	1540	1440	2300	7.4
04198015 - COLO CREEK NEAR CASTALIA, OHIO (LAT 41 25 15 LONG 082 47 55)												
OCT., 1968 29...	1000	22	274	0	970	20	--	1760	1230	1000	1940	7.6
04201500 - ROCKY RIVER NEAR BEREA, OHIO (LAT 41 24 24 LONG 081 53 14)												
DEC., 1968 12...	1425	110	--	--	--	64	--	--	--	--	708	--
28...	1530	7300	--	--	--	20	--	--	--	--	262	--
FEB., 1969 06...	1350	198	--	--	--	60	--	--	--	--	601	--
MAR. 20...	1430	118	--	--	--	76	--	--	--	--	676	--
MAY 09...	1250	1230	--	--	--	16	--	--	--	--	300	--
JULY 03...	1100	62	--	--	--	58	--	--	--	--	632	--
AUG. 21...	1430	30	--	--	--	120	--	--	--	--	894	--
04202000 - CUYAHOGA RIVER AT HIRAM RAPIDS, OHIO (LAT 41 20 26 LONG 081 10 01)												
DEC., 1968 18...	1120	455	--	--	--	16	--	--	--	--	232	--
FEB., 1969 17...	1150	119	--	--	--	20	--	--	--	--	272	--
APR. 15...	1145	465	--	--	--	13	--	--	--	--	213	--
AUG. 13...	1125	80	--	--	--	16	--	--	--	--	265	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
STREAMS TRIBUTARY TO LAKE ERIE--Continued												
04204000 - LITTLE CUYAHOGA RIVER AT MOGADORE, OHIO (LAT 41 03 47 LONG 081 23 38)												
NOV., 1968												
06...	1230	2.6	--	--	--	28	--	--	--	--	447	--
JAN., 1969												
07...	1225	25	--	--	--	20	--	--	--	--	345	--
FEB.												
24...	1215	16	--	--	--	22	--	--	--	--	376	--
JUNE												
18...	1250	9.4	--	--	--	17	--	--	--	--	342	--
AUG.												
14...	1225	4.6	128	0	44	22	3.9	222	158	53	372	7.1
04204500 - LITTLE CUYAHOGA RIVER AT MASSILLON ROAD, AKRON, OHIO (LAT 41 03 37 LONG 081 27 48)												
NOV., 1968												
06...	1425	13	--	--	--	30	--	--	--	--	484	--
JAN., 1969												
07...	1435	25	--	--	--	60	--	--	--	--	539	--
FEB.												
24...	1345	17	--	--	--	26	--	--	--	--	439	--
JUNE												
19...	1025	20	--	--	--	22	--	--	--	--	438	--
AUG.												
14...	1325	9.0	182	0	60	26	2.5	276	212	63	492	7.5
04205000 - SPRINGFIELD LAKE OUTLET AT AKRON, OHIO (LAT 41 03 21 LONG 081 27 52)												
NOV., 1968												
27...	1100	.78	--	--	--	38	--	--	--	--	600	--
JAN., 1969												
07...	1345	1.1	--	--	--	162	--	--	--	--	958	--
FEB.												
24...	1500	3.0	--	--	--	45	--	--	--	--	528	--
JUNE												
19...	1415	5.3	--	--	--	50	--	--	--	--	520	--
AUG.												
14...	1420	1.8	--	--	--	58	--	--	--	--	500	--
04206000 - CUYAHOGA RIVER AT OLD PORTAGE, OHIO (LAT 41 08 08 LONG 081 32 50)												
JAN., 1969												
18...	1400	816	--	--	--	80	--	--	--	--	561	--
JULY												
06...	1350	1210	--	--	--	28	--	--	--	--	367	--
04207200 - TINKERS CREEK AT BEDFORD, OHIO (LAT 41 23 04 LONG 081 31 39)												
DEC., 1968												
12...	1245	72	--	--	--	82	--	--	--	--	638	--
FEB., 1969												
11...	1330	66	--	--	--	116	--	--	--	--	738	--
JUNE												
12...	1400	24	--	--	--	62	--	--	--	--	634	--
AUG.												
13...	1100	18	164	0	59	132	7.0	514	308	173	820	7.9
04207500 - OHIO CANAL AT INDEPENDENCE, OHIO (LAT 41 23 25 LONG 081 37 30)												
NOV., 1968												
14...	1315	80	--	--	--	150	--	--	--	--	1030	--
FEB., 1969												
04...	1345	93	--	--	--	74	--	--	--	--	505	--
JUNE												
06...	1250	77	--	--	--	120	--	--	--	--	892	--
AUG.												
04...	1110	64	--	--	--	188	--	--	--	--	1070	--
04209000 - CHAGRIN RIVER AT WILLOUGHBY, OHIO (LAT 41 37 51 LONG 081 24 13)												
DEC., 1968												
17...	1010	307	--	--	--	46	--	--	--	--	478	--
JUNE, 1969												
11...	1020	100	--	--	--	30	--	--	--	--	513	--
AUG.												
13...	1230	68	--	--	--	38	--	--	--	--	497	--

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DATE	TIME	DIS-CHARGE (CFS)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLO-RIDE (CL) (MG/L)	NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)
STREAMS TRIBUTARY TO LAKE ERIE--Continued												
04211500 - MILL CREEK NEAR JEFFERSON, OHIO (LAT 41 45 11 LONG 080 48 03)												
DEC., 1968												
11...	1615	120	--	--	--	16	--	--	--	--	239	--
FEB., 1969												
10...	1455	32	--	--	--	24	--	--	--	--	263	--
JUNE												
11...	1500	3.7	--	--	--	12	--	--	--	--	230	--
AUG.												
14...	1000	1.4	--	--	--	28	--	--	--	--	269	--
04212000 - GRAND RIVER NEAR MADISON, OHIO (LAT 41 44 26 LONG 081 02 48)												
DEC., 1968												
11...	1245	475	--	--	--	16	--	--	--	--	250	--
FEB., 1969												
10...	1125	356	--	--	--	16	--	--	--	--	241	--
JUNE												
11...	1200	79	--	--	--	16	--	--	--	--	332	--
AUG.												
14...	1205	40	--	--	--	20	--	--	--	--	308	--
04212500 - ASHTABULA RIVER NEAR ASHTABULA, OHIO (LAT 41 51 20 LONG 080 45 44)												
NOV., 1968												
20...	1635	254	--	--	--	16	--	--	--	--	226	--
JAN., 1969												
16...	1200	64	--	--	--	24	--	--	--	--	259	--
MAR.												
13...	1145	20	--	--	--	24	--	--	--	--	279	--
MAY												
15...	1220	88	--	--	--	11	--	--	--	--	185	--
JULY												
22...	1500	181	--	--	--	12	--	--	--	--	195	--
04213000 - CONNEAUT CREEK AT CONNEAUT, OHIO (LAT 41 55 37 LONG 080 36 15)												
NOV., 1968												
20...	1440	495	--	--	--	16	--	--	--	--	211	--
JAN., 1969												
16...	1530	130	--	--	--	22	--	--	--	--	285	--
MAR.												
13...	1425	49	--	--	--	34	--	--	--	--	352	--
MAY												
15...	1440	182	--	--	--	12	--	--	--	--	213	--
JULY												
22...	1340	310	--	--	--	12	--	--	--	--	196	--
SEP.												
24...	1230	15	112	0	60	31	.6	210	156	64	417	8.0

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	pH	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	IRON (FE) (MG/L)	MANGANESE (MN) (MG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)
ATHENS COUNTY										
391934N0820650 - ATHENS OHIO MUNICIPAL WELL 2A (AT-10), DEPTH 52 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 3, 1968..	1160	7.3	13	9.7	3.9	.66	138	43	45	3.1
MAY 28, 1969..	859	7.4	12	11	3.7	.46	108	32	26	2.6
AUGLAIZE COUNTY										
403403N0841257 - WAPAKONETA OHIO MUNICIPAL WELL 6 (AU-11), DEPTH 268 FT., WATER BEARING FORMATION DOLOMITE										
DEC. 5, 1968..	937	7.9	12	17	1.7	.01	112	49	29	2.6
JUNE 3, 1969..	970	7.6	12	17	1.9	.02	113	48	31	2.7
BUTLER COUNTY										
392445N0843330 - HAMILTON OHIO, CHAMPION PAPER CO., WELL 4 (BU-36), DEPTH 168 FT., WATER BEARING FORMATION SAND AND GRAVEL										
NOV. 13 1968. A	809	7.4	15	10	.07	.00	102	34	23	3.4
FEB. 6, 1969..	813	7.4	15	10	.12	.02	103	32	23	3.4
MAY 21....	805	7.4	--	14	.02	.00	87	40	23	3.4
AUG. 18... A	812	7.4	16	11	.02	.00	102	32	22	3.4
CLARK COUNTY										
395835N0834917 - SPRINGFIELD OHIO MUNICIPAL WELL 4 (CL-20), DEPTH 96 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 6, 1968..	795	7.5	13	9.9	.73	.14	116	33	6.0	2.1
395833N0834919 - SPRINGFIELD OHIO MUNICIPAL WELL 5 (CL-20), DEPTH 94 FT., WATER BEARING FORMATION SAND AND GRAVEL										
JUNE 3, 1969..	756	7.4	11	8.0	.78	.14	109	32	5.5	2.1
HAMILTON COUNTY										
391634N0841526 - LOVELAND OHIO MUNICIPAL WELL 2 (H-22), DEPTH 70 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 19 1968..	646	7.8	--	11	.52	.00	93	21	11	1.9
JUNE 2, 1969..	682	7.9	13	13	.03	.00	103	21	11	1.9
390645N0844805 - NORTH BEND OHIO, DUPONT CORP. WELL 38 (H-21), DEPTH 134 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 30 1968..	1020	7.6	14	14	.13	.02	135	36	20	29
MAY 28, 1969..	1010	7.3	--	14	.55	.75	131	39	20	18
391748N0843938 - ROSS OHIO, SW OHIO WATER CO., COLLECTOR NO. 1 (H-19), DEPTH 144 FT., WATER BEARING FORMATION SAND AND GRAVEL										
NOV. 13 1968. A	741	7.6	14	12	.05	.05	101	26	19	3.2
FEB. 5, 1969..	776	7.6	--	11	.10	.40	99	33	19	3.3
MAY 21....	724	7.6	14	14	.07	.33	89	30	18	3.2
AUG. 18... A	731	7.5	13	12	.02	.35	94	28	18	3.0
HENRY COUNTY										
411243N0835349 - DESHLER OHIO MUNICIPAL WELL 2 (HY-10), DEPTH 167 FT., WATER BEARING FORMATION DOLOMITE										
DEC. 5, 1968..	2180	8.0	10	15	1.2	.01	295	110	92	3.5
JUNE 11 1969..	2190	7.4	14	11	.94	.03	308	99	93	3.3
JEFFERSON COUNTY										
401853N0803611 - MINGO JUCTION OHIO MUNICIPAL WELL (JE-10), DEPTH 74 FT., WATER BEARING FORMATION SAND AND GRAVEL										
NOV. 20 1968..	894	7.0	19	13	.26	2.2	96	16	60	7.6
MAY 28, 1969..	708	6.8	14	11	.33	1.7	79	11	39	6.4

A Heavy metals determined on this date, see page 380.

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR
ATHENS COUNTY											
391934N0820650 - ATHENS OHIO MUNICIPAL WELL 2A (AT-10), DEPTH 52 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 3, 1968..	228	0	308	87	.1	.5	790	746	522	335	3
MAY 28, 1969..	280	0	152	54	.2	.0	526	528	401	172	0
AUGLAIZE COUNTY											
403403N0841257 - WAPAKONETA OHIO MUNICIPAL WELL 6 (AU-11), DEPTH 268 FT., WATER BEARING FORMATION DOLOMITE											
DEC. 5, 1968..	388	0	194	15	1.2	1.0	605	612	481	163	10
JUNE 3, 1969..	389	0	195	18	1.2	2.3	658	621	480	161	2
BUTLER COUNTY											
392445N0843330 - HAMILTON OHIO, CHAMPION PAPER CO., WELL 4 (BU-36), DEPTH 168 FT., WATER BEARING FORMATION SAND AND GRAVEL											
NOV. 13 1968 A	336	0	106	40	.2	3.9	520	488	395	119	1
FEB. 6, 1969..	340	0	106	38	.1	4.0	513	486	389	110	5
MAY 21....	337	0	104	35	.2	.1	537	473	382	106	0
AUG. 18...A	340	0	103	34	.2	3.7	480	478	386	108	2
CLARK COUNTY											
395835N0834917 - SPRINGFIELD OHIO MUNICIPAL WELL 4 (CL-20), DEPTH 96 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 6, 1968..	384	0	109	14	.2	.8	485	479	425	111	5
395833N0834919 - SPRINGFIELD OHIO MUNICIPAL WELL 5 (CL-20), DEPTH 94 FT., WATER BEARING FORMATION SAND AND GRAVEL											
JUNE 3, 1969..	364	0	99	13	.2	5.1	500	454	404	106	3
HAMILTON COUNTY											
391634N0841526 - LOVELAND OHIO MUNICIPAL WELL 2 (H-22), DEPTH 70 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 19 1968..	320	0	53	22	.1	.6	376	371	319	56	10
JUNE 2, 1969..	364	0	47	20	.0	2.1	409	398	344	46	5
390645N0844805 - NORTH BEND OHIO, DUPONT CORP. WELL 38 (H-21), DEPTH 134 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 30 1968..	446	0	129	36	.2	.6	627	619	485	120	5
MAY 28, 1969..	462	0	122	34	.2	2.7	653	609	488	109	0
391748N0843938 - ROSS OHIO, SW OHIO WATER CO., COLLECTOR NO. 1 (H-19), DEPTH 144 FT., WATER BEARING FORMATION SAND AND GRAVEL											
NOV. 13 1968.A	317	0	93	31	.2	3.6	474	445	359	99	2
FEB. 5, 1969..	338	0	95	31	.2	6.6	480	464	383	106	5
MAY 21....	312	0	90	26	.2	4.3	461	428	346	90	0
AUG. 18...A	311	0	90	28	.2	2.6	435	430	350	94	4
HENRY COUNTY											
411243N0835349 - DESHLER OHIO MUNICIPAL WELL 2 (HY-10), DEPTH 167 FT., WATER BEARING FORMATION DOLOMITE											
DEC. 5, 1968..	148	0	1150	58	1.1	1.2	1920	1800	1190	1070	3
JUNE 11 1969..	165	0	1100	54	1.5	.0	1960	1750	1180	1040	0
JEFFERSON COUNTY											
401853N0803611 - MINGO JUNCTION OHIO MUNICIPAL WELL (JE-10), DEPTH 74 FT., WATER BEARING FORMATION SAND AND GRAVEL											
NOV. 20 1968..	140	0	202	84	.8	3.1	564	552	306	191	2
MAY 28, 1969..	95	0	175	52	.5	5.5	466	428	242	164	5

DATE	SPECIFIC CONDUCTANCE (MICROMHOS)	pH	TEMPERATURE (DEG C)	SILICA (SIO2) (MG/L)	IRON (FE) (MG/L)	MANGANESE (MN) (MG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG) (MG/L)	SODIUM (NA) (MG/L)	POTASSIUM (K) (MG/L)
MEDINA COUNTY										
410040N0814249 - WADSWORTH OHIO MUNICIPAL WELL 7 (MD-10), DEPTH 227 FT., WATER BEARING FORMATION SANDSTONE										
DEC. 4, 1968..	181	8.0	11	11	5.5	.30	22	6.8	2.6	1.3
MAY 27, 1969..	212	6.8	13	10	7.6	.39	28	7.1	2.8	1.4
MIAMI COUNTY										
400249N0841228 - TROY OHIO MUNICIPAL WELL NO. 6 (MI-15), DEPTH 177 FT., WATER BEARING FORMATION SAND AND GRAVEL										
NOV. 20 1968.A	647	7.6	12	14	--	.05	78	33	13	1.6
FEB. 11 1969..	636	7.8	13	15	1.3	.07	75	34	13	1.6
400240N0841220 - TROY OHIO MUNICIPAL WELL NO. 5 (MI-15), DEPTH 96 FT., WATER BEARING FORMATION SAND AND GRAVEL										
MAY 20, 1969..	695	7.6	15	15	1.4	.05	83	36	12	2.0
400215N0841136 - TROY OHIO MUNICIPAL WELL NO. 2 (NEW) (MI-15), DEPTH 55 FT., WATER BEARING FORMATION SAND AND GRAVEL										
AUG. 18 1969.A	645	7.5	15	14	.28	.04	67	38	15	1.7
MONTGOMERY COUNTY										
393853N0841707 - MIAMISBURG OHIO BOX BOARD CO., WELL 2 (MT-63), DEPTH 65 FT., WATER BEARING FORMATION SAND AND GRAVEL										
NOV. 13 1968.A	890	7.5	14	14	1.4	.08	106	36	33	3.8
FEB. 6, 1969..	849	7.6	16	11	.73	.11	100	37	28	3.4
MAY 6.....	835	7.6	14	12	.31	.09	100	34	28	3.4
AUG. 18...A	889	7.5	16	12	.35	.13	102	38	29	3.6
MUSKINGUM COUNTY										
395753N0815935 - ZANESVILLE OHIO MUNICIPAL WELL 6 (MU-10), DEPTH 65 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 3, 1968..	994	7.6	13	11	.49	.52	102	21	66	3.8
MAY 29, 1969..	1080	7.7	14	11	.69	.18	116	19	68	3.9
PICKAWAY COUNTY										
393325N0825711 - CIRCLEVILLE OHIO PITTS PLATE GLASS CO. WELL (PK-21), DEPTH 135 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 3, 1968..	688	7.5	13	20	2.7	.01	94	33	6.8	2.0
MAY 29, 1969..	684	7.4	14	16	1.8	.03	92	33	6.7	1.4
RICHLAND COUNTY										
404100N0823505 - LEXINGTON OHIO STEVENS MFG., CO., WELL (R-10), DEPTH 168 FT., WATER BEARING FORMATION SANDSTONE										
DEC. 4, 1968..	499	8.2	13	17	.76	.10	55	13	33	1.9
MAY 27, 1969..	493	7.8	13	13	.76	.12	51	15	32	1.8
TUSCARAWAS COUNTY										
403210N0812931 - DOVER OHIO MUNICIPAL WELL 7 (TU-10), DEPTH 103 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 4, 1968..	503	8.0	11	12	.43	.09	73	19	4.3	1.4
MAY 28, 1969..	523	7.7	12	12	.40	.11	77	19	4.0	1.3
WILLIAMS COUNTY										
412853N0843220 - BRYAN OHIO MUNICIPAL WELL 4 (WM-10), DEPTH 147 FT., WATER BEARING FORMATION SAND AND GRAVEL										
DEC. 5, 1968..	656	7.9	12	19	.63	.00	61	38	28	2.4
MAY 21, 1969..	645	7.8	12	17	.61	.01	60	35	28	2.2
WYANDOT COUNTY										
405714N0832353 - CAREY OHIO MUNICIPAL WELL 3 (WY-10), DEPTH 127 FT., WATER BEARING FORMATION DOLOMITE										
DEC. 23 1968..	735	8.0	--	9.5	.03	.00	102	34	4.8	2.2

A Heavy metals determined on this date, see page 380.

GPO 822-622-25

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	SULFATE (SO4) (MG/L)	CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR
MEDINA COUNTY											
410040N0814249 - WADSWORTH OHIO MUNICIPAL WELL 7 (MD-10), DEPTH 227 FT., WATER BEARING FORMATION SANDSTONE											
DEC. 4, 1968..	90	0	16	1.0	.1	.2	102	105	83	6	5
MAY 27, 1969..	104	0	23	1.0	.1	.1	120	131	99	14	2
MIAMI COUNTY											
400249N0841228 - TROY OHIO MUNICIPAL WELL NO. 6 (MI-15), DEPTH 177 FT., WATER BEARING FORMATION SAND AND GRAVEL											
NOV. 20 1968.A	346	0	52	14	1.0	1.6	390	378	330	46	5
FEB. 11 1969..	346	0	53	11	.9	1.7	381	375	327	44	5
400240N0841220 - TROY OHIO MUNICIPAL WELL NO. 5 (MI-15), DEPTH 96 FT., WATER BEARING FORMATION SAND AND GRAVEL											
MAY 20, 1969..	352	0	72	15	.7	.4	427	410	355	66	0
400215N0841136 - TROY OHIO MUNICIPAL WELL NO. 2 (NEW) (MI-15), DEPTH 55 FT., WATER BEARING FORMATION SAND AND GRAVEL											
AUG. 18 1969.A	348	0	46	13	.8	.0	363	367	323	38	28
MONTGOMERY COUNTY											
393853N0841707 - MIAMISBURG OHIO BOX BOARD CO., WELL 2 (MT-63), DEPTH 65 FT., WATER BEARING FORMATION SAND AND GRAVEL											
NOV. 13 1968 A	386	0	105	46	.4	2.4	576	537	413	96	2
FEB. 6, 1969..	378	0	94	38	.4	5.5	520	503	402	92	5
MAY 6.....	362	0	86	48	.9	2.9	507	494	390	93	0
AUG. 18...A	381	0	106	42	.5	3.0	526	523	411	98	4
MUSKINGUM COUNTY											
395753N0815935 - ZANESVILLE OHIO MUNICIPAL WELL 6 (MU-10), DEPTH 65 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 3, 1969..	198	0	105	146	.5	1.8	579	554	341	179	5
MAY 29, 1969..	219	0	110	164	.5	1.0	670	602	368	188	0
PICKAWAY COUNTY											
393325N0825711 - CIRCLEVILLE OHIO PITTS. PLATE GLASS CO. WELL (PK-21), DEPTH 135 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 3, 1968..	400	0	44	7.0	.5	.1	390	404	370	42	5
MAY 29, 1969..	400	0	47	6.0	.5	.0	420	400	365	37	0
RICHLAND COUNTY											
404100N0823505 - LEXINGTON OHIO STEVENS MFG., CO., WELL (R-10), DEPTH 168 FT., WATER BEARING FORMATION SANDSTONE											
DEC. 4, 1968..	254	0	30	16	.4	.2	292	292	191	0	5
MAY 27, 1969..	260	0	29	16	.4	.1	287	287	189	0	0
TUSCARAWAS COUNTY											
403210N0812931 - DOVER OHIO MUNICIPAL WELL 7 (TU-10), DEPTH 103 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 4, 1968..	182	0	107	5.5	.1	.3	301	312	260	111	5
MAY 28, 1969..	216	0	98	4.0	.0	.0	336	322	270	93	0
WILLIAMS COUNTY											
412853N0843220 - BRYAN OHIO MUNICIPAL WELL 4 (WM-10), DEPTH 147 FT., WATER BEARING FORMATION SAND AND GRAVEL											
DEC. 5, 1968..	382	0	34	10	1.1	.9	363	382	308	0	5
MAY 21, 1969..	384	0	29	9.0	1.2	.1	369	371	294	0	0
WYANDOT COUNTY											
405714N0832353 - CAREY OHIO MUNICIPAL WELL 3 (WY-10), DEPTH 127 FT., WATER BEARING FORMATION DOLOMITE											
DEC. 23 1968..	318	0	112	9.0	.5	5.2	462	435	395	134	5

DETERMINATIONS OF HEAVY METALS

DATE	TOTAL CHROMIUM (CR) (MG/L)	NICKEL (NI) (MG/L)	COPPER (CU) (MG/L)	LEAD (PB) (MG/L)	ZINC (ZN) (MG/L)	COBALT (CO) (MG/L)	ARSENIC (AS) (MG/L)	CADMIUM (CD) (MG/L)
			BUTLER COUNTY--Continued					
392445N0843330 - HAMILTON OHIO, CHAMPION PAPER CO., WELL 4 (BU-36), DEPTH 168 FT., WATER BEARING FORMATION SAND AND GRAVEL--Continued								
NOV. 13 1968..	.01	.01	.02	.02	.02	.00	.00	.00
AUG. 18 1969..	.02	.00	.04	.00	.01	.00	.00	.00
			HAMILTON COUNTY--Continued					
391748N0843938 - ROSS OHIO, SW OHIO WATER CO., COLLECTOR NO. 1 (H-19), DEPTH 144 FT., WATER BEARING FORMATION SAND AND GRAVEL--Continued								
NOV. 13 1968..	.00	.00	.02	.02	.06	.00	.00	.00
AUG. 18 1969..	.00	.00	.00	.00	.04	.00	.00	.00
			MIAMI COUNTY--Continued					
400249N0841228 - TROY OHIO MUNICIPAL WELL NO. 6 (MI-15), DEPTH 177 FT., WATER BEARING FORMATION SAND AND GRAVEL--Continued								
NOV. 20 1968..	.00	.02	.02	.01	.05	.00	.01	.00
400215N0841136 - TROY OHIO MUNICIPAL WELL NO. 2 (NEW) (MI-15), DEPTH 55 FT., WATER BEARING FORMATION SAND GRAVEL--Continued								
AUG. 18 1969..	.00	.00	.00	.00	.01	.00	.00	.00
			MONTGOMERY COUNTY--Continued					
393853N0841707 - MIAMISBURG OHIO BOX BOARD CO., WELL 2 (MT-63), DEPTH 65 FT., WATER BEARING FORMATION SAND AND GRAVEL--Continued								
NOV. 13 1968..	.00	.01	.02	.02	.01	.01	.00	.00
AUG. 18 1969..	.00	.00	.06	.00	.01	.00	.00	.00

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